

GALAXY S6 OR ONE M9? CHOOSE YOUR WEAPON!



Stuff

GADGETS / APPS / GEAR

Virtual Reality you can walk around in

Receptors for laser-guided gaming



May* enable time travel

*may also not

Put this on and step into gaming's new reality

E4.60 May 2015 www.stuff.tv



A CUT ABOVE

Apple's bladelike MacBook makes your Air look obese

NETFLIX VS AMAZON

Which one deserves to dominate your sofa?

LAPTOPS

They flip, they swipe, they love to type



Innovation
that excites

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MPG figures are obtained from laboratory testing, in accordance with 2004/3/EC and intended for comparisons between vehicles and may not reflect real driving results. Safety Shield Technologies standard on Tekna grade only. NissanConnect standard on Tekna and n-tec grades (requires compatible smartphone). Model shown is a Qashqai Tekna. Refer to dealer for exact specification. Models subject to availability. Nissan Motor (GB) Ltd. The Rivers Office Park, Denham Way, Rickmansworth, Hertfordshire WD3 9YS.



WHATCAR?

**Car of the
Year 2015**

Best small SUV

WHATCAR?

**Car of the
Year 2014**

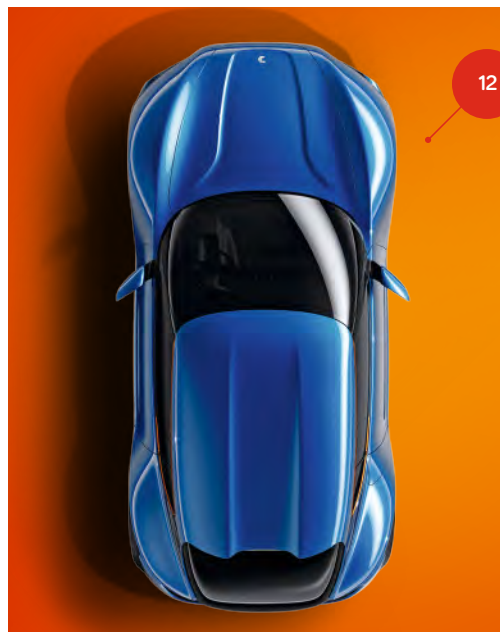
Best small SUV

**What makes the Nissan Qashqai the
'What Car? Best Small SUV' for the second year in a row?**

Could it be its unique design or innovative features like Safety Shield Technologies? Perhaps it's the way NissanConnect seamlessly syncs with your smartphone? Or maybe it's the Nissan chassis control which gives it that responsive driving experience? With so many innovative features it's probably best you test drive and decide for yourself.

The award winning Qashqai – made Great in Britain.

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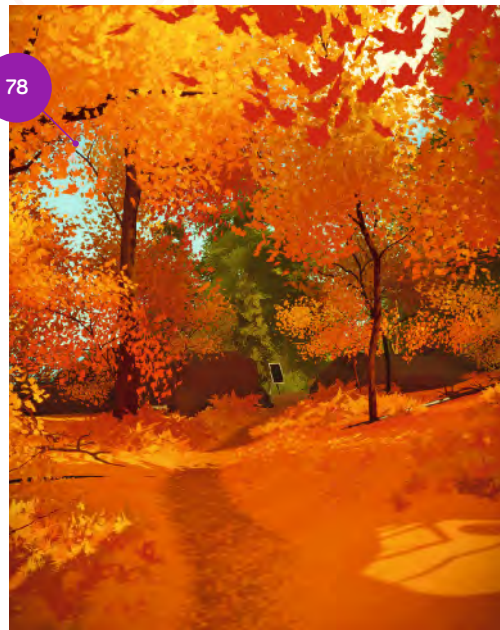
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TOP 10 OF EVERYTHING

Looking to buy something but need a bit of advice? Turn to our *Stuff* Top Tens: our expert listings of all gadgetry, from **p113**

LAPTOPS

NEW ENTRY



Toshiba Chromebook 2

★★★★★

Well-judged upgrade **p122**

SMARTHOME

HOT BUY



Nest Learning Thermostat

★★★★★

Heating heaven **p124**

CAMERAS

NEW ENTRY



Panasonic Lumix LX100

★★★★★

Compact and bijou **p125**

LG G Flex 2

Redefining
The Curve

Innovation for a Better Life



Boldly contoured, impressively tough and exceptionally capable. The LG G Flex 2 redefines innovation with its advanced curved design, stunning 5.5" full HD display and super fast Octa-Core processor.

www.lg.com/uk/gflex2



WELCOME



There was a time, an esteemed former colleague once told me, when the world's most futuristic game controller was a plate. Not a capacitive touchplate or a brainwave-reading headplate, but a dinner plate of the sort usually seen hosting an omelette, or a potato waffle, or some ham. You rested the plate on its side on your ZX Spectrum keyboard, held it like a steering wheel and steered your virtual car by rolling it from side to side, perfectly recreating the sensation of driving a small, ceramic car that smelt of ham.

Things have moved on slightly since then. Game designers are now able to create vast worlds of incredible detail; games can redraw themselves each time, so you never play the same thing twice; they can be streamed and modified. Through YouTube and Twitch, just watching games is becoming more popular than broadcast TV. And at some point, they'll replace your TV: virtual reality, a technology we've been fantasising about since before *Stuff* had a website, is no longer a prototype, and it will bring with it the most fundamental change in the way we play games (and use computers in general) since the smartphone. Or Ikea's new 14-inch dinner service, depending on who you ask. **S**

Will Dunn, Editor / wild@stuff.tv / [@willydunn](https://twitter.com/willydunn)



THIS MONTH IN STUFF'S DIGITAL EDITION

- Animated, interactive pages, videos and more hi-res pictures
- Amazing drone footage from the skies above Balham

Android fan? *Stuff* is also available on **Google Play**, **Zinio**, **Exact Editions** and **Samsung's Papergarden**.

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and only applicable to the UK market.

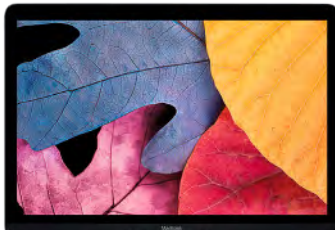
H

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T

HOT
FOUR
#1

THE THINNER THE 'BOOK, THE MORE WE WANT TO READ IT

Apple MacBook

Most people don't realise why cafés are so popular. They think the boom started with Starbucks and everyone got addicted to caramel lattes and flat whites and now every high-street shop that isn't an estate agent or a charity shop is an artisan beanhouse. They're wrong: cafés are popular because they're where people go to show off the fact that they have a swanky Apple laptop. It's been that way since the first iBook made us pretend we had a screenplay to write; it happened with the MacBook Air we tapped away on while pretending to like a chai latte, whatever the hell that is anyway; and it's happening now, with a vengeance. Apple's commitment to making laptops worth getting mugged for is just merciless: this thing weighs less than a kilo and packs a Retina screen so thin you probably could actually shave with it. You're not going to be able to move in Starbucks for people tapping away on these, even if they are eBay-ing their other possessions to pay for them and looking up adaptor cables.

Ashot as... a molten aluminium cappuccino
from £1050 / apple.com/uk



Tap dancer

The MacBook's keyboard uses a new 'butterfly switch' design that allows the keys to be more stable, precise and low-profile. The LED lighting has been rejigged to make them glow clearly and consistently.

U

F

F

25 PAGES
OF THE BIGGEST
STORIES FROM
PLANET TECH



Invisible touch

Tap anywhere on the Force Touch trackpad and get a haptic response that mimics a click. Press harder to enter Force functions such as speeding up fast-forward, or to get a definition of a word.

GOOGLE'S GONE USB-C TOO



CHROMEBOOK PIXEL 2

Within a gnat's teabreak of the MacBook launch, Google announced a new version of its high-res Chromebook Pixel. The two machines are quite different, but their key similarity is adoption of the USB-C port. Or ports plural, in the case of the Pixel, which has 15.3mm of height to play with – it has two USB-C and two USB 3.0 connections, as well as an SD card slot. Otherwise, it's the same high-spec approach to Chrome OS, with a 2560x1700 touchscreen, but with 12 hours of battery and a lower price.

from £800 /
store.google.com

HOT
FOUR
#2THAT'S NO
BLU-RAY PLAYER...

Nvidia Shield Console

The Shield is a set-top box, of sorts, but one with more muscle than a butcher's dustbin. Its formidable grunt comes from a Tegra X1 processor that can play *Crysis 3* (okay, the Android version) at 1080p and offers a touted 35 times the power of an Apple TV. And because it would be a waste of that power on *Clash Of Candy*, Nvidia's GRID service offers 1080p PC games streamed to your Shield for a monthly fee (you'll need a pretty snappy broadband connection, mind). It'll play 4K films via Plex or XBMC, and it'll also stream TV – though exactly which UK channels will have to wait. Your Apple TV and your PS4 are already in talks about how to kill it.

As hot as... the back of your plasma
US\$200 / shield.nvidia.co.uk

GRID-supported games include *Batman Arkham Origins* and *Street Fighter X Tekken*





◀ Lamps are the new chargers

Both phones have WPC and PMA wireless charging, and Samsung says most public wireless charging systems will use one or the other. Ikea, the shop where you buy your meatballs, is also getting involved with a range of tables and lamps that'll juice up your blower.



◀ Samsung Pay

Samsung becomes the Dick Dastardly to Apple's Penelope Pitstop in the mobile payments wacky race, with a system so similar to Apple Pay it almost seems like the company is making a smart, self-effacing joke about its alleged cut-'n'-paste antics. Almost.



HOT
FOUR
#3



PROGRESSIVE METAL

Samsung S6, S6 Edge

Owners and critics have been equally vociferous about Samsung needing a design change and, with the S6 and S6 Edge, it has answered those cries. And that's good for two reasons. One, it means that owners and critics can now get together and party. And two, we have two fine new phones. The Edge is the big story: improving on the tech first seen in the Note 4 Edge, it has two wraparound edges to the screen. When the display's off these can show a night clock or pulse certain colours according to who's calling you. And when the display's on, well, it just looks ace. Both S6 and Edge are made of metal, with sealed glass backs and 5.1in QHD Super AMOLED screens. They look and feel premium, although some will miss the microSD slot. Both come with 64-bit Exynos processors, f1.9 camera lenses for low-light snappery and fingerprint security.

As hot as... Liz Hurley's edgeless Versace
[etba / samsung.co.uk](http://etba/samsung.co.uk)



HOT
FOUR
#4

THE SPACE RACE IS BACK ON

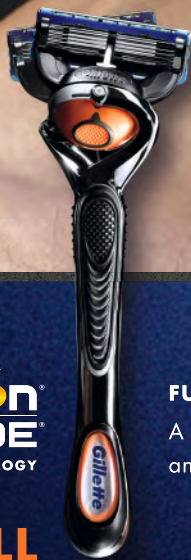
nanoFlowcell Quantino

Remember the nanoFlowcell Quant, the 200mph+ electric supercar powered by seawater? It's as big as a boat too – 5.25m from nose to distant tail. It's a similar story with the Tesla Model S, which, at just less than 5m, does a lot of breathing in at the supermarket car park. And that's why we're excited about the Quantino two-seater coupé. Measuring just 3.9m, it's shorter than a Jaguar F-Type yet uses nanoFlowcell's ionic water electric system to give it a top speed of 124mph and a 600-mile range. The makers say they'll have a working model by the end of 2015. Bagsy taking it down Morrisons first.

**Ashot as... your first all-electric
fixed penalty notice**
£tba / nanoflowcell.com



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THERE'S A TIME AND A... STEEL?

Pebble Time, Pebble Time Steel

from US\$180 / getpebble.com



The Pebble is back with a brand new mission. No, wait... two new missions!

● First there was Pebble.

With an operating system that could work with any phone, an E Ink screen that gave it monster battery life and a low price, the Pebble was Kickstarter's first mega-hit. It raised its US\$100,000 goal in two hours and went on to raise over \$10m. Over a million Pebbles have now been sold.

● Then they reinvented the Pebble Steel.

The Steel wasn't that different on the inside, but with a metal body

and Gorilla Glass screen it gave watch fans something a bit more dressy to strap on.

● Then it was Pebble Time.

Last month, an entirely new watch was announced. Now there's a colour screen, but it's still e-paper, so the battery lasts a hearty seven days. It's 20% thinner than the Steel, but it keeps the metal bezel and Gorilla Glass screen. The Timeline UI organises your calendar events, texts and other info into a scrollable list, rather than single notifications. Team Pebble decided to return to Kickstarter to launch it and, unsurprisingly, it set a whole bevy of new records: half a million in

17 minutes, \$1m in under an hour, \$10m in 48 hours. The Apple Watch will make more on its opening weekend, but costs between two and 55 times as much.

● And then there was Pebble Time Steel.

Later in the same month, Pebble Steeled-up the Time. This US\$250 version comes in silver, black or gold (coloured stainless steel), with both a metal and a leather strap. It's 1mm thicker than the Time but has 10 days of battery life – and if you've preordered a Time but now decide you fancy the swanky version, you can upgrade your order.

OPEN-SOURCE,
AFFORDABLE
AND WITH A
10-DAY BATTERY,
IT COULD GIVE
APPLE'S WATCH
NIGHTMARES



THE WATCH WATCH

IT'S WHERE WE WATCH THE WATCHES

● Huawei Watch

We were expecting Talkband craziness (see p16), but this classy number, from Huawei, expected we not. It's round, it has a delightfully narrow bezel and it runs Android. Come June, we'll be excited to see this.

● Apple Watch

Prices! The one thing we were waiting to hear about has been revealed. (Oh, and battery life: 18 hours.) The Sport Watch costs £300 to £340 and the standard Watch a hefty £480 to £940, but it's the the gold Watch Edition that, at £8000 to £13,500, is the real bargain.

● LGG Watch Urbane

Two new wristy schmoo from LG. The Urbane and the Urbane LTE are round, like the G Watch R, but metal, like Lemmy. The Urbane runs Android Wear but the LTE, with the 4G its name suggests, has an LG proprietary OS that definitely is not WebOS. Nope. No, sir. Web OS? Where?



Jeezy rider

SANTA CRUZ STIGMATA

There isn't much you can't do on a cyclocross bike with mudguard mounts, disc brakes and so on: they're true all-terrain, all-purpose machines. The Stigmata is not. It's an out-and-out cyclocross racer with a light, stiff carbon frame bedecked with top-end components befitting a company with a mountain bike background – like through-axle hubs and hydraulic disc brakes. There are three models in the range (the one pictured has optional Enve carbon wheels). None will be suited to luggage-laden commuting, but they'll be bullet-fast on off-road trails, and light enough to pick up and sprint with over rougher stuff.

from £3300 / santacruz bikes.co.uk



Neighbourhood network-nosey

PANASONIC NUBO

Setting up a video camera whose output you can watch anywhere in the world is a perfectly reasonable desire – one that has been attainable for some time, but with some difficulty. It involved getting a network camera from someone like Axis or D-Link. Invariably you'd find yourself physically up to your ears in power cables and Ethernet cables, and/or virtually up to your eyebrows in IP addresses and network settings. Finally, things are getting easier. The Nubo can be attached to Wi-Fi or, easier still, it can use 4G SIM for an extra £5 (ish) per month. It shoots 1080p video with a 140° wide-angle lens, and can be set to automatically send you clips if it detects movement.

£tba (due winter 2015) / nubocam.com



On your wrist, or in your ear HUAWEI TALKBAND B2

Sure as eggs is eggs, this summer's fitness fashion hit is tipped to be the renaissance of Bluetooth headsets. Which is why Huawei is persevering with its wristband/hybrid Talkband. One minute it's on your wrist, tracking your toddling; the next it's in your ear, transmitting your talking. It's a neat idea, sort of, but the original B1 was hamstrung by poor tracking. "Fixed!" says Huawei, while drawing attention to the beautiful silver and gold finishes.

[ftba / huawei.com/uk](http://ftba.huawei.com/uk)

On your wrist, nothing in your pocket HTC GRIP

Competitive times demand innovation... or collaboration. In this case, HTC has teamed up with increasingly dominant sportswear manufacturer Under Armour, and tracked data will sync neatly with Under Armour's Record app. But there's innovation of sorts too, in that the Grip has a GPS chip built in – no need to carry your smartphone with you to get GPS-accurate activity tracking. Great for those wearing pocketless hot pants.

[US\\$200 / htc.com](http://US$200/htc.com)

START MENU

The month's best concepts, start-ups, crowdfunded projects and plain crazy ideas



Always take the weather with you

CLOUDSOLAR

from [US\\$250 / gocloudsolar.com](http://US$250/gocloudsolar.com)

Some of us don't have a roof over our heads. That is, some people literally don't, but that's an issue beyond any crowdfunding campaign.

The issue here is that we would all like solar panels and wind turbines to power our gadgets, but most of us don't have the space. CloudSolar are building solar farms in the wide open USA; you just buy a set of panels and reap the moral and monetary rewards.

Status

Seeking funding (Indiegogo)



Sticky cam

PODO

from [US\\$90 / podolabs.com](http://US$90/podolabs.com)

Well, young Timmy, back at the start of the 21st century, cameras didn't all fly. Look at this holopic of one called a 'Podo'. It had to be stuck or magnetically attached to something by the owner. It worked with smartphones using a basic wireless technology called Bluetooth, and it could take photos or videos. Tomorrow we'll learn about the time when cameras took photos of other people or things, not yourself!

Status

Funded (Kickstarter)



Pretty fly for a kart, guy

PLYFLY GO-KART

from [US\\$745 / theflatworks.com](http://US$745/theflatworks.com)

Driving these days is predominantly about whale-sized wagons with traction control and anti-crash systems. There's no drama. Thus, in order to generate a driving buzz, you need to go smaller and nearer the ground. Both parameters are neatly provided by this flatpack wooden go-kart, which can be supplied with either a 2.5hp or 4hp petrol engine and built in a day. Shape it, break it, fix it – drive it.

Status

Seeking funding (Kickstarter)

BE RENEGADE

THE ALL-NEW JEEP RENEGADE.

Jeep® with



Life's a journey. So why follow anyone else's path?

The All-New Jeep Renegade with its unmistakable styling and road presence is an SUV unlike any other. In addition to its wide choice of fuel-efficient engines, you also get the kind of safety features that come from over 70 years of adventures. Not forgetting a host of cutting-edge technologies such as the 7" TFT driver display and class-leading 9-speed automatic transmission available on selected versions.*

And with prices starting at only £16,995 OTR.

So wherever you're going, go your own way.

jeep.co.uk



Jeep®

Model shown Jeep Renegade 1.4 MultiAir II 140 hp Limited FWD Manual with optional two-tone alloy wheels and optional bi-colour paint at £23,545 OTR. *The 9-Speed automatic transmission is standard on selected Limited & Trailhawk versions and the 7" TFT is standard on all Limited, Opening Edition & Trailhawk versions. OFFICIAL FUEL CONSUMPTION FIGURES FOR JEEP RENEGADE RANGE MPG (L/100KM): EXTRA URBAN 48.7 (5.8) – 70.6 (4.0), URBAN 32.1 (8.8) – 51.4 (5.5), COMBINED 40.9 (6.9) – 61.4 (4.6), CO₂ EMISSIONS: 160 – 120 G/KM. Fuel consumption and CO₂ figures are obtained for comparative purposes in accordance with EC directives/regulations and may not be representative of real-life driving conditions. Factors such as driving style, weather and road conditions may also have a significant effect on fuel consumption. Jeep® is a registered trademark of Fiat Chrysler Automobiles US LLC.



CIRCLE OF FRIENDS

It might not have occurred to you that what you really need in life is a phone that looks like a walnut ashtray hiding in a wood. But consider this: as the world goes mad for smart watches, adding more screens and notifications, the Runcible promises calm. It's made with wood and designed not to beep or vibrate. Rather than status updates barging their way into your quiet time, coloured circles gradually expand to show activity in your social networks. With Firefox OS and with 4G it's capable of being an information-rich smartphone, but in its default state it's the gadget equivalent of a scented candle.

NEWS FEED



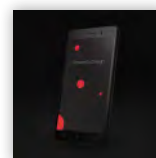
ONLY FOR AUDIO-FILES

If expensive HDMI cables get your goat, prepare to have your goat got. Sony's 64GB microSD card is made for high-res audio, with, apparently, lower levels of digital noise. And obviously for that you pay about £100 – five times the price of a regular card.



FREE COMPUTERS!

The BBC – the gorgeous public broadcasting service that is as unique to Britain as Corgis and sunbathing in 12°C – has made its own Raspberry Pi-esque tiny-PC, called the Micro Bit, and it'll be giving a million of them to Year 7 kids. Stay tuned for the launch of the PITV and the Raspberry Sky.



THE FAMILY TABLET'S GONE DARK

Silent Circle, creator of the super-secure Blackphone 2, is to launch Blackphone+, an Android tablet, in the second half of 2015. The innards will be customised Qualcomm bits and the UI its PrivatOS, with its suite of secure VoIP and wireless networking apps.

I MADE THIS



A SUPERMASSIVE BLACK HOLE

Interstellar's VFX chief **Paul Franklin** on building a deep-space monster

The more I learned about the black hole, the weirder it became. It's more outlandish than anything in any fantasy film about magic or the supernatural that I've ever worked on.

Interstellar is about a group of astronauts who travel to a distant galaxy where, instead of a star at the heart of the system, there's a supermassive black hole with 100 billion times the mass of our sun.

A black hole is what happens when a huge star dies. The fires of nuclear fusion are no longer burning so it collapses, becoming denser and denser until it forms an infinitesimally small point with infinite density. Its gravity is so strong that nothing can escape, not even light, so you end up with this black sphere floating in space.

All the surrounding gas and dust spirals into the black hole,

speeding up until it's travelling at almost the speed of light, so there's also a belt of gas, like the rings of Saturn, but glowing.

We didn't want the audience to think, 'Oh, this is the computer-generated bit'. We wanted them to think, 'Wow, they went out and filmed a black hole!'

Professor Kip Thorne from Caltech is one of the world's leading experts on black holes, and a close colleague and friend of Stephen Hawking. Kip gave us the maths, then the computer scientists here at Double Negative were able to turn his numbers into software that created images of the black hole. So when you see the black hole in the film, it's created by real physics.

The biggest challenge was creating the level of detail for the IMAX format, which offers

something like 10 times the resolution of your HD TV. If the images are noisy, if anything is wrong, there's nowhere to hide. To make images that big, we have a 'render farm' of 20,000 nodes, each equivalent to a very fast desktop PC. It still took over 100 hours to render each individual frame. We ended up with over

rotating at nearly the speed of light; a thing that huge, spinning that fast, warps the space around it, like putting your finger on a napkin and twisting. This produces a very complex, very beautiful pattern at the edge of the event horizon; Kip said this had never been seen before, because no-one had ever tried visualising a black

"WE DISCOVERED NEW DETAILS IN THE STRUCTURES AROUND BLACK HOLES"

800TB of data; it was, as we say in visual effects, 'non-trivial'.

At one point the astronauts travel through a wormhole, and we were able to create the interior according to the physics that Kip gave us – but it was, frankly, like you were going through some mad, psychedelic hall of mirrors. It's amazing, but you have to remember it needs to make sense to a large audience.

We even discovered something new in the process. Our simulated black hole is immense, and it's

hole as if they were floating near it with a camera. We'd discovered a new level of detail in the structure around a black hole.

So, with Kip, we co-authored a scientific paper for the Institute of Physics' journal, *Classical And Quantum Gravity*. I never thought my career as a filmmaker would involve publishing a peer-reviewed scientific paper.

I'm all for the unification of art and science. Science reveals truth, and artists interpret it; they're two sides of the same coin.

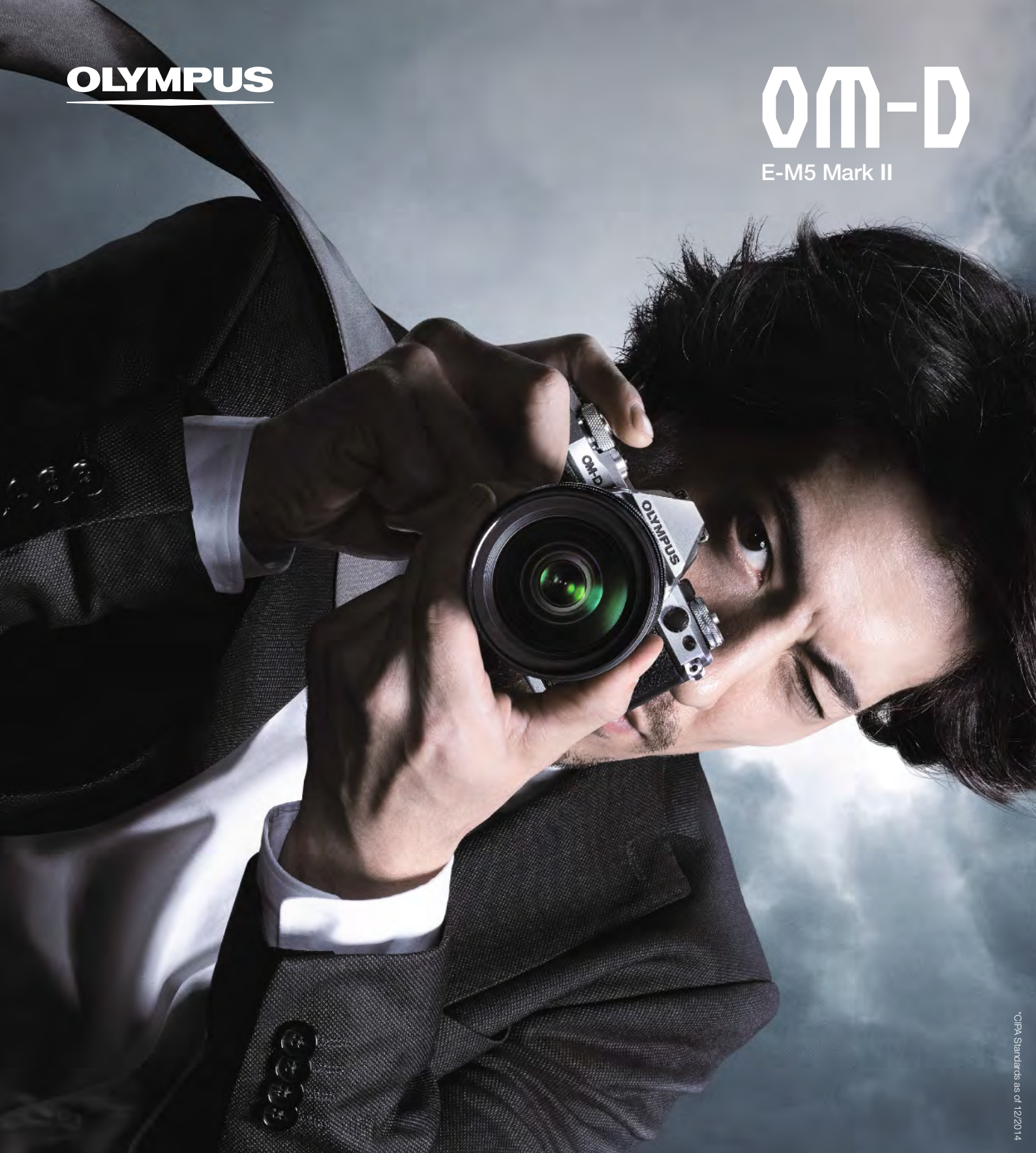
INTERSTELLAR: DOING THE MATHS



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OM-D

E-M5 Mark II



*CIPA Standards as of 12/2014

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MORE LENS THAN A SEASON OF *STRICTLY*

Nikon Coolpix P900

£600 / nikon.co.uk

The huge 83x optical zoom can read a chaffinch's expression at half a mile away



Desperate to get a photo of a thing that's a long, long way away? Or a small thing that's just a long way away? Well, look over here...

● **More zoom than a stretch limo full of paparazzi!**

Nikon's new Coolpix P900 bridge camera has a zoom lens of quite incredible capabilities: fully extended it offers an 83x optical zoom, equivalent to a 2000mm lens. With a 2000mm telescope, you can see bands of colour on Jupiter. Half a billion miles away. Although the Nikon's aperture isn't telescope-level, it's better than most superzooms: at f/2.8 to f/6.5 it should have both

incredible reach and good low-light capabilities. It also has a digital zoom that extends the range to 166x – albeit at the loss of some detail... and vast amounts of street cred. Digital zoom? Paf. Amateur.

● **Higher levels of shake ownership than Rolls-Royce!**

If you're worried about those handheld telephoto shots looking all blurry, then that worry is well-founded. Try spearing a Jaffa Cake with a mile-long spear, then come back and do us a presentation on wobble-magnification. But with the P900, you can impale your Jaffa Cake and eat it thanks to new Dual Detect Optical Vibration Reduction technology that compensates for jiggles using both the lens and the

image sensor simultaneously. Nikon says it offers the equivalent of five extra stops of shutter speed.

● **Tastier spec than an Italian deli!**

Still, it's 16 megapixels and video comes out at 1080p; a 3in movable display and an electronic viewfinder give you access to the P900's eagle eye; it can embed your photos and videos with location information; and Wi-Fi and NFC allow you to use your phone or tablet to view pics and operate the camera remotely – handy if you're zoomed right in. At 14cm across and 900g it's a hefty pocket Hubble, but it does have Moon Mode. Because if you've got a 2000mm zoom, the first thing you need to do with it is to go out and take a cool picture of the Moon.

WITH A FOCAL LENGTH OF 2000MM, YOU CAN TAKE A VERY COOL PICTURE OF THE MOON





The concept of 'up' is relative ALCATEL ONETOUCH IDOL 3

How many times a day do you pick up your phone? How many times do you pick it up and it's the wrong way up? How long does it take you to flip it round so it's the right way up? Who decided which way up was the right way up? More pertinently, who's going to give you that time back?

The answer to the problem, curiously enough, is Alcatel. Its new, affordable, damnably stylish Snapdragon-powered Android phone comes in 4.7in and 5.5in sizes... and it works either way up. It has both a microphone and a speaker at either end, and an interface that couldn't give less of a damn how you're holding it.

from €200 / alcatelonetouch.com/uk



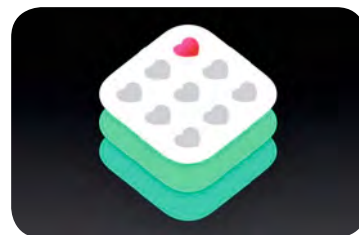
Whizz bits this a-way, price drops that a-way ACER LIQUID LEAP+

Be not under any illusion: these are halcyon days. What came before were the dark days, where going for a run garnered only a brief hormonal high. What comes soon will be when our fitness trackers get AI smarts and will be unable to lie about our efforts. "That was pathetic," they will say. "You should not have drunk all that sangria last night." Right now, however, we have wristy run-recorders that are pleasingly dumb. "Yay!" they beep. "You're bleeping awesome." And they are affordable, colourful, and they can handle basic smartphone notifications and Android, iOS and Windows music playback control. Enjoy these simple days, friends.

€80 / acer.co.uk

DECIPHER

ALLOW ME TO EXPLAIN...



#1 RESEARCH KIT

Craig Grannell



At Apple's press conference last month, sandwiched between the swanky new MacBook and the equally attractive new *Game of Thrones*, was something that bettered any shiny trinket and could genuinely change people's lives: ResearchKit.

Recruiting people for medical studies is tricky, often requiring payment, and even then input can be limited. Kathryn Schmitz of the University of Pennsylvania noted how of 60,000 letters sent out, only a paltry 305 responses came back. So, now that 700 million iPhones have been sold, Apple has figured out a way to make its device more than a slab of metal for gorging on Facebook and checking emails 500 times before lunch.

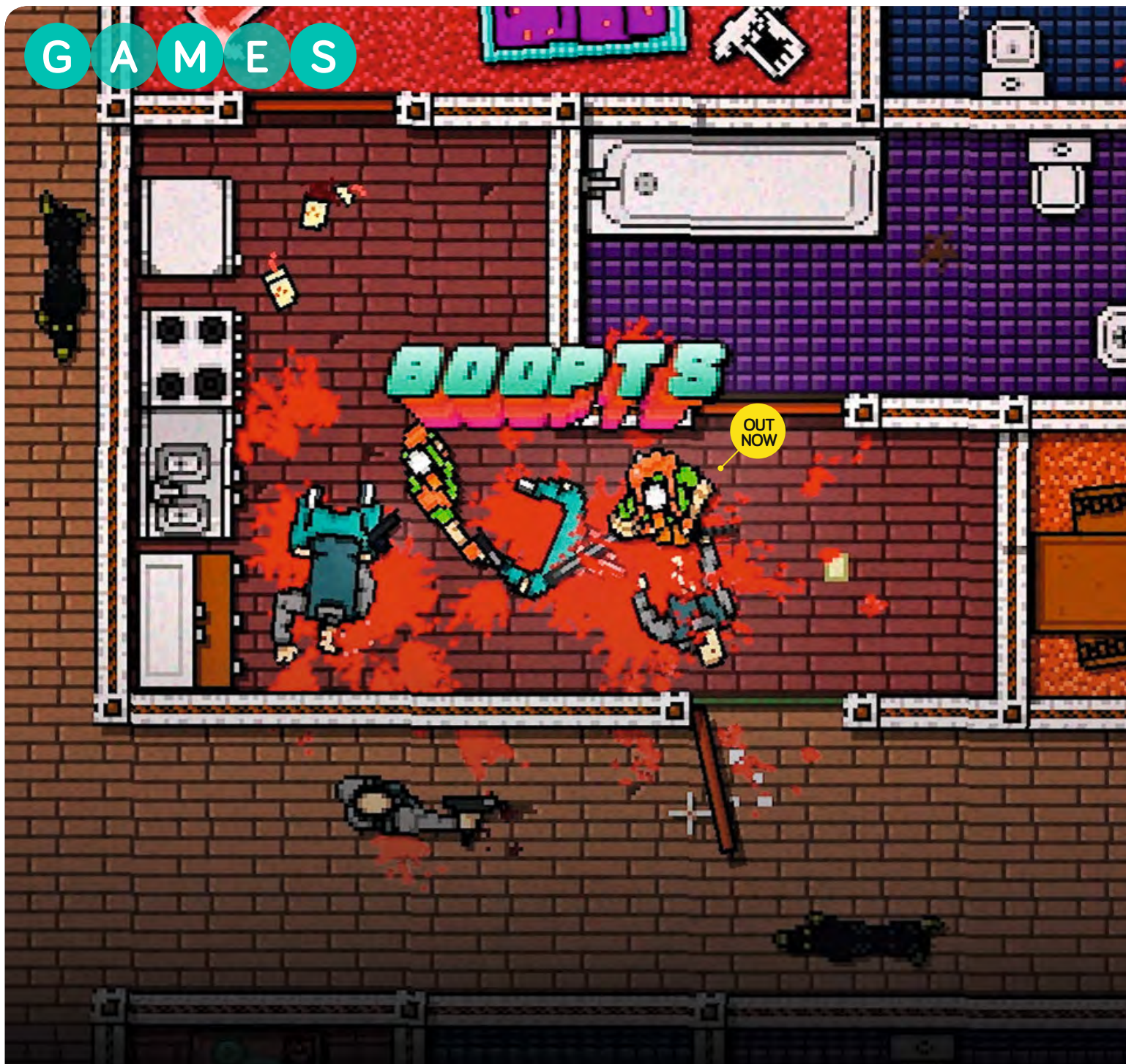
ResearchKit could change how medical research is carried out. With Parkinson's, for example, the mPower app includes tapping tests that evaluate hand tremors, a speech test for detecting vocal cord variations,

THE MPOWER APP INCLUDES PARKINSON'S TESTS THAT CAN READ HAND TREMORS

and a walking test that leverages the iPhone's accelerometer and gyroscope. All these tests can be done where you like, rather than at the doctor's.

In addition, apps can pull in other data from HealthKit, giving the user an ongoing overview of their health. So while optionally providing data to a broader study, a sole user may come to understand how exercise affects their own well-being.

Apple often says it wants to change the world. By developing the open-source ResearchKit, it actually could. And in the most important way: quality of life.



FIRST PLAY HOTLINE MIAMI 2: WRONG NUMBER PC/Mac, PS4, PS3, Vita

Few games get inside your head as effectively as *Hotline Miami 2: Wrong Number*. If you played the 2012 original you'll know what to expect: lashings of ultraviolence; frantic, trial and deadly error top-down gameplay; and the best soundtrack this side of Los Santos.

The difference is, everything in *Wrong Number* is bigger, tougher and nastier than last time. Maps are larger, which means you often have to tackle them by breaking them down into sections, clearing one area before moving on to the next.

You'll also encounter a wider range of enemies earlier on, some of whom can only be killed with particular weapons or in a certain way. Fortunately the available arsenal has been increased, so you can dish out pain in myriad new ways.

There's also a far greater range of playable characters, each with his (or her) own special skills, although sadly it's not up to you which one you tackle each level as.

On the whole it's tougher than ever. You have to sync your thoughts and your thumbs with

the 120bpm soundtrack, make friends with the restart button and let the game sweep you away. Getting into the rhythm of it is part of the enjoyment.

Story-wise it's more complex than the first game, based around the idea of a shoot for a movie called *Midnight Animal*, which sounds like it should be an anagram of *Hotline Miami* but isn't. Often you're not sure what's real and what's fiction until the little 8-bit director shouts 'cut' — and based on how the playable characters behave, they're not always sure either.



PLAY IT 15TH TIME LUCKY FOR CLASSIC RPG

FINAL FANTASY XV

Xbox One, PS4

Considering it's getting on for 10 years since *Final Fantasy XV* was announced (back then it was called *FF Versus XIII*) you'd be forgiven for thinking it was on its way to becoming gaming's *Chinese Democracy*. But thanks to a demo that's out now with *Final Fantasy Type-0 HD*, it looks as though that title will be left free for *The Last Guardian*.

The demo's called *Episode Duscae* and it lets you play a three-hour portion of the game as Noctis, a man who has friends with preposterous haircuts and names like Gladiolus, Ignis and Prompto — so if this whole videogame thing doesn't work out at least they'll be able to form the world's first Shakespearean pop band.

Ironically, the fantasy elements of the series seem to have been toned down, so while you'll be fighting off nasty goblin-type creatures (using frantic real-time combat, not the old-fashioned turn-based fights *FF* games are famous for), it has more of an alternate reality feel to it than the outright fantasy of previous games. That said, you'll still fight a huge hench-monster with a mohican called a Behemoth at the end.

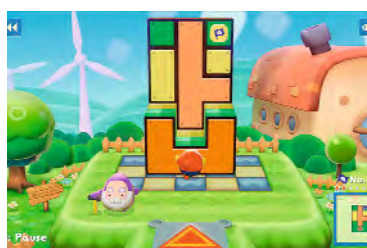


STUFF PICKS ESHOP GEMS FOR YOUR WII U



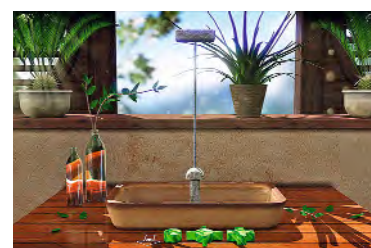
NES REMIX

This takes Nintendo's greatest '80s hits and upcycles them into mini-challenges. There's an auto-runner take on *Super Mario Bros*, *Donkey Kong* with Link from *Zelda*, and speed runs through *Ice Climber* (although not the Japanese original where you club seals with a mallet). Have your Human League mixtapes ready.



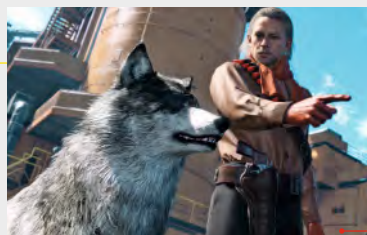
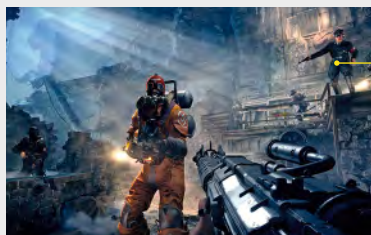
PULLBLOX WORLD

This game takes place in what must be the world's most dangerous playground, where kids constantly get squashed in giant walls that you then need to push, pull and hop around to free them. But don't be fooled by its bright colours: beneath the huggable exterior lurk plenty of devious puzzles ready to cut you down to size.



ART OF BALANCE

Meditative physics puzzler *Art Of Balance* requires you to place wooden shapes above a bath to create stable structures. It starts off easy, but as you work through the 200 levels you'll need to be a block-arranging ninja. Take turns with friends to place a shape without everything crashing down. Think Zen Jenga (Zenga?) and you're there.



INCOMING

MAY

- PROJECT CARS
- WOLFENSTEIN: THE OLD BLOOD
- THE WITCHER 3: WILD HUNT

JUNE

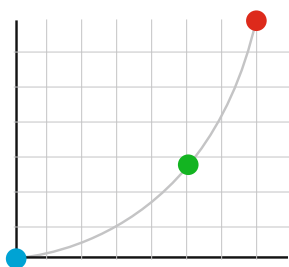
- BATMAN: ARKHAM KNIGHT

JULY

- THE FLAME IN THE FLOOD

SEPTEMBER

- METAL GEAR SOLID 5: THE PHANTOM PAIN



RISING & FALLING

The ebb and flow of geekery's main players



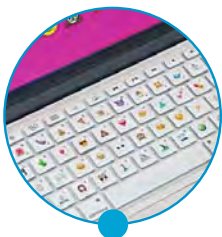
TITANFALL COMES TO PS4

One of the biggest games of 2014 is to get a sequel – and as if that wasn't exciting enough, developer Respawn Entertainment has said the new game will not be a Windows and Xbox exclusive. As soon as a title or dates are announced, you'll know.



LORDS TO OWN DRONES

Members of the House of Lords EU Committee have called for tighter laws governing commercial drones – with consumer whirlybots not far behind. Mind you, given our flying skills, some kind of licence might well make the world a safer place.



EMOJIS CROSS THE LINE

If there was an emoji for 'jumping the shark', then that would be a fitting epitaph for the moment the Emoji Keyboard appeared on Kickstarter and took all the ironic fun out of the use of them.



Undersea and under budget STORM AQUA-PRO

Truly, you rocked that Pee-wee Herman look last year. The bow-tie, the tassels: it was the attention to detail. Which is why, in order to pull off this year's Cousteau-meets-Haddock ocean explorer look, you're going to need an authentic diver's watch. Which, if we're talking Breitling Superocean or Omega Seamaster, is going to require a new mortgage. Fortunately, Storm has just launched the Aqua-Pro. One thousand metres of water resistance and a helium release valve mean it's no water-baby wannabe, a dual time dial lets you keep track of fashion shows around the world, and it has a very acceptable number of zeroes on the price.

from £200 / stormwatches.com



Ford loses two wheels FORD MODE:ME, MODE:PRO

Ford has Frisbee'd its badge into the electric bike arena, causing some to duck and tut loudly. Undaunted, the Big Blue has gone on to shout about its two bike concepts. The smaller MoDe:Me is designed for personal use. Co-created with two-wheel specialists Dahon, the Me has vibrating handlebars to warn of passing cars and use as a left/right direction indicator while navigating with its app. It folds to be taken on public transport, whereas the semi-professional MoDe:Pro folds to fit into its custom Transit van cradle. Both have EU-regulation 200W motors and 16mph top speed, but both are currently concepts, so not going anywhere at any speed just yet.

[Etba\(concept\)](http://Etba(concept)) / ford.co.uk



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BOARD GAMES

Forget clubbing:
may we present
your new Saturday
night fever

1 Quantum

You're thinking: "That's a lot of dice. I'm gonna be rolling like a G." But in this space strategy game, dice are actually spaceships. Their value is based on size, from low-riding battlestation to nippy scout.

£37 / funforge.fr

2 Cornish Smuggler

You're thinking that this game involves lots of pirate talking. It's actually a reasonably complex trading game involving customs, bribery and market forces. Arr.

£35 / grublin.com

3 Cash 'N' Guns

Your mum's thinking: "Are those real guns?" And yes, they are. As in, they're not imaginary. But they're made of foam. This game casts you as post-heist villains sharing out the spoils. Unfairly...

£25 / esdeviumgames.com

4 King Of New York

You're wondering whether you'd rather be watching the gloomy Christopher Walken film of the same. Don't! Rampage instead. Smash buildings, squash soldiers, rise to stardom! Walken will wait.

£35 / lellogames.com

5 Myth

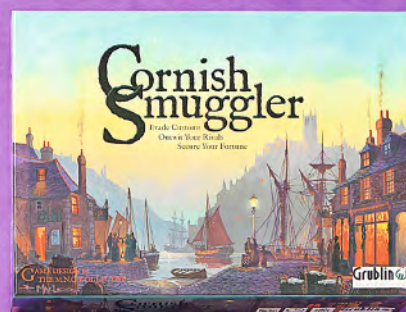
The other players are thinking: "Would anyone laugh if I painted my character?" *Myth* is huge and fantastical and awesome, but also accessible. There are expansion packs and metal figures to buy.

£65 / megacongames.com

6 Bananagrams

Etymologists are thinking: "Well, it doesn't work – you don't say 'ah-na-grams'." But we're too busy playing this neat, portable word-making classic to care.

£15 / bananagrams.com





Input, output; shake it all about

TANGENT AUDIO SPECTRUM BT5

Who are you? You might be looking for a Bluetooth speaker set for your home that's capable of better stereo imaging than any one-box wonder. You might be looking for a flexible 2x25W active monitor setup, given that these have optical and coaxial digital inputs as well as red/white RCA or 3.5mm stereo jack analogue inputs. Not to mention a subwoofer output for added oomph. You might be someone who needs a monitor with a remote control... or, and this is the least likely, someone who's looking for a slightly weedy 500mAh USB charger, and the fact that it's built into a set of stylish speakers is just a minor irritation.

£300 / tangent-audio.com

Bright, light and slight SONY Z4 TABLET

It's the world's slimmest 10in tablet and it's also waterproof, in addition to having a 2K screen that may or may not be the brightest such screen available. One or all of these factors might serve to pique your interest in the new Z4 Tablet, even before you actually handle one and agree that 6.1mm is indeed thin, and 398g is remarkably light. An iPad Air 2, for reference, is also 6.1mm but has a slightly smaller 9.7in screen – marketing semantics, for sure, but then the Air is also a 'whopping' 437g, so let's forget we ever paid it any heed. Another reason to be interested in the Z4 Tablet is that, with Sony divesting itself of various electronics divisions, having one of these might well soon be the tech equivalent of owning a Saab.

from £500 / sony.co.uk



DROP EVERYTHING AND DOWNLOAD...

Jaunt VR Efree / Android

If you're one of the many people who don't 'get' the fuss about virtual reality, then the best way to 'get' what it's all about is to get it. Yes, actually get it, using the free-to-download VR content from 360° pioneers Jaunt. You can buy a plastic VR headset (right) for your smartphone for £30 from firebox.com, which denecessitates all that fiddly Google Cardboard folding. Now you can watch Jaunt's short films, demos and music from Paul McCartney and Jack White.



BEST OF

GENEVA

MOTOR SHOW 2015

Race-ready weapons, stylish supercars and the craziest concepts descended on the Swiss city for the annual festival of metal



ON SALE SOON



Audi R8

It's been eight years since the original R8 was launched, and it was in need of a refresh. Audi has responded with a sharper, lighter and faster supercar featuring the latest interior tech. A 'virtual cockpit' with a 12.3in TFT display replaces the old analogue instrument binnacles, while the refreshed 5.2-litre V10 engine is now offered with 533bhp or 602bhp. Prices start at £119,500. There's also an all-electric e-tron that you can actually buy this time, but that price is still top secret.



Honda Civic Type R

Honda at last dropped the silk sheet on a final production version of the long-awaited Type R. Its 2.0-litre engine develops a heady 306bhp, which can propel the molten hatch from 0-62mph in 5.7 seconds. Honda claims it can lap the Nürburgring in a scorching 7mins 50.63secs – unmatched in the front-wheel-drive class. Prices start at £29,995, which puts it in the ring with Ford's recently announced Focus RS. Hot hatch fans should strap in: 2015 is going to be a vintage year.



Porsche Cayman GT4

The Porsche Cayman is regarded as one of the finest – handling machines a limited budget can buy. Now the German marque has announced it's to release a GT4 version, with an engine borrowed from the 911 Carrera S. For £64,450 you get a mid-mounted 3.8-litre flat-six engine producing 380bhp. The 0-62mph sprint takes 4.4 seconds, while the suspension and chassis have been fine-tuned to handle the most demanding circuits. Thrills don't get much better for less than £100k.



McLaren 675LT

Aston Martin, McLaren and Mercedes-Benz all revealed powerful and expensive track-only machines at this year's show. The McLaren 675LT (for 'Long Tail', referencing the elongated chassis), is a £260,000, 666bhp race-ready tool just about fit for the road. A neat infotainment system, air-conditioning and some interior carpeting hint at its road-going abilities, but most of the price goes towards the F1-inspired technology that can propel it from 0-62mph in 2.9 seconds.



ON SALE MAYBE

**Rinspeed Budii concept**

Based on a BMW i3, Rinspeed's personal mobility concept features a telescopic, roof-mounted laser that scans the road ahead for obstacles. The Budii can then automatically adjust ride-height and suspension. The steering column is robotised so it can swap sides and allow both front occupants to enjoy the driving experience. Inside, there's NFC charging facilities and a pair of mobility scooters stashed in the rear. Chances of a production version? Slim to none.

**Aston Martin DBX concept**

A shock reveal was made at this year's show: Aston looks set to dabble in the luxury SUV market. The DBX is a 'high-luxury GT' powered by advanced battery packs and electric motors. There's enough room inside for a large family shop, and the interior packs neat tech tricks such as video cameras and screens rather than wing mirrors. There's no word on whether it will go into production, but surely it won't belong before Bond meets the DBX.

**Bentley EXP 10 Speed 6 concept**

Bentley fans have waited an age for a two-seater sports car to rival offerings from Aston Martin and McLaren. Bentley has said its concept would shun V8 and W12 engines in favour of a hybrid drivetrain to appeal to a greener consumer. The exterior styling, which takes inspiration from classic British aviation, is jaw-dropping. Inside there's a fancy dash with a large, tablet-style display and enough leather to start a luxury handbag business.

**Lexus LF-SA concept**

Lexus drew a quietly impressed crowd with its tiny LF-SA concept. The proposed city car measures just 340cm long, 170cm wide and 143cm high, making it smaller than a VW up! and a credible challenger to the Mini. It comfortably seats four, features a cutting-edge hologram-style digital screen inside and has a large head-up display that projects vehicle information onto the windscreen. The LF-SA would fit nicely into the Japanese marque's line-up as a fashionable city car.



Three into one makes five LITTLEBIG

What children really need is a bike made out of bones. Not dried-up bones, but real squidgy bones, as found in children themselves. Then said bike could grow with the kid, strengthening and repairing itself as it goes. What we have as a stop-gap is the LittleBig. It starts off as a low-slung balance bike for teenies but can have its bits flipped to make it a slightly taller balance bike for levelling up. Then, if they survive the slings and arrows of sprog life, they can celebrate with the slotting-in of an actual drivetrain. Five years of biking in one. Mum and Dad will be happy.

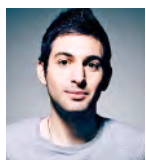
€195 / littlebigbikes.com



Look—a Leica knackered, but it's—a not LEICA M-P CORRESPONDENT

The pre-aged Leica M-P Correspondent has been designed by Lenny 'nice scarf' Kravitz to look like a Leicaflex he was given at age 21 by his father. Spec-wise, the Correspondent and the accompanying Summicron-M 35mm f/2.0 and Summilux-M 50mm f/1.4 lenses (both of which have also been artificially aged—the former also has focus and aperture rings based on its 1959 incarnation) are identical to their 'normal' production equivalents. That means it has a 24MP full-frame CMOS sensor and a powerful processor with 2GB of RAM, and the lenses are very, very sharp. Production is limited to 125 pieces.

US\$24,500 / leica-camera.com



FUTURE STUFF SMELL-O-GADGETS

Esat Dedezade discovers why whiff-detection is not to be sniffed at

Stop giggling at the back. Yes, gadgets that create smells have rarely been anything other than amusing, but gadgets that can detect smells could be vastly more useful. At this year's MWC event in Barcelona, we witnessed a device accurately identify the smell of an orange. Developed by BoydSense, the electronic nose (as we're calling it), is a prototype sensor that's able to 'smell' and analyse molecules in the air.

The 'nose' uses a sensitive layer that changes its electrical resistance when it

comes into contact with gas molecules. Different molecules inflict different levels of resistance, leaving behind a unique footprint to be recognised by the accompanying software's algorithms.

While these sensors have existed for some time, this prototype can fit in your pocket, and the ultimate aim is to create one that's small enough to fit inside smartphones and wearables.

While it's already capable of detecting ethanol in the breath (making it a handy

breathalyser), it could be capable of sniffing out medical conditions too. It is, for example, possible to detect diabetes by measuring the level of acetone (a by-product of the condition) in a person's breath when they exhale on the sensor.

If BoydSense manages to shrink down a sensor powerful enough to diagnose types of cancer, then we could see gadgets having a big role in early detection. There's still a way to go, but we'll definitely be keeping our noses to the wind for further developments.



1946-2015

OVER 60 YEARS OF HISTORY REVISITED

The Heritage line represents the very essence of the TUDOR spirit and is the standard-bearer of its stylistic identity. Revisiting some of the most emblematic models in the history of the brand, it pays homage to its unique values and to more than six decades of rich heritage. The timekeepers in the Heritage line are not simply vintage re-issues. They are genuine reinterpretations in which past, present and future are combined. While retaining the original spirit, aesthetic codes and key characteristics of the historic models, TUDOR's Style Workshop places them at the very heart of the contemporary world, modernising them stylistically with small, subtle touches and adding new technical characteristics to optimise their performance. And so "tomorrow's icons" are born – modern classics, harmoniously combining form and function.

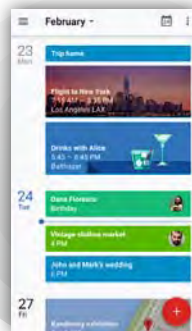


TUDOR
WATCH YOUR STYLE

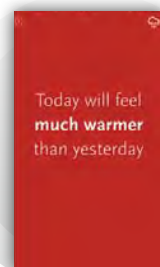
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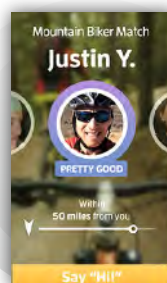
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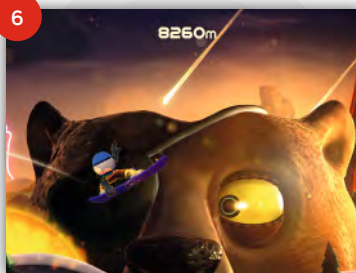
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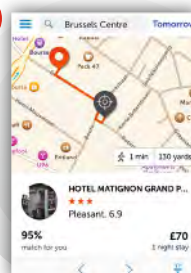
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6



9



1 Duck Bumps

£1.49 / iOS

Planning a lengthy train trip? This multiplayer-on-one-iPad game will make you the envy of your fellow passengers. Each of up to four players gets controls in a corner of the screen to move their duck into a winning position.

2 Angry Birds Under Pigstruction

£free / iOS

The behemoth *Angry Birds* empire lost us for a while, but this new title might tempt us back to the classic avians-versus-porcines struggle. It's out in Canada now, and the rest of the world 'in 2015'.

3 IFTTT Do

£free / iOS, Android

We all made loads of complex IFTTT recipes when it launched, got bored and forgot about them. Its new Do Button, Do Camera and Do Note apps pare things back to popular processes that are initially restricted to three actions each.

4 Google Calendar

£free / iOS

If you're a Google Calendar and iPhone user, and a fan of Google's new Android design, this is great news! You can get the Calendar app for iOS. If you use iCloud or Outlook and use an iPhone and hate Google, look away.

5 WeGoDo

£free / iOS

A meet 'n' shred app for outdoorsy types who lack buddies. Build a profile of preferred activities and how far you are prepared to travel, and it puts you in touch with local like-minded loonies who want to go biking, hiking, skiing or sledding.

6 Rad Boarding

£free / iOS

If you don't like to be seen playing the same game as everyone else, or if you just got bored with *Alto's Adventure* (see p60), then this might give you a restorative fix. You slide, you jump, you avoid. Radical!

7 Thermo Diem

£free / iOS

Despite our fascination with the weather, we don't need a graphical representation of barometric pressure projections. We need a big colour-coded screen that informs us how the weather will be compared with yesterday.

8 Adonit Forge

£free / iOS

Adonit makes fancy styluses for your iPad but has, until now, let others make the apps. Forge is a collaborative idea-builder: basically, you create Walls on which you can sketch as though on a whiteboard.

9 Booking Now

£free / iOS

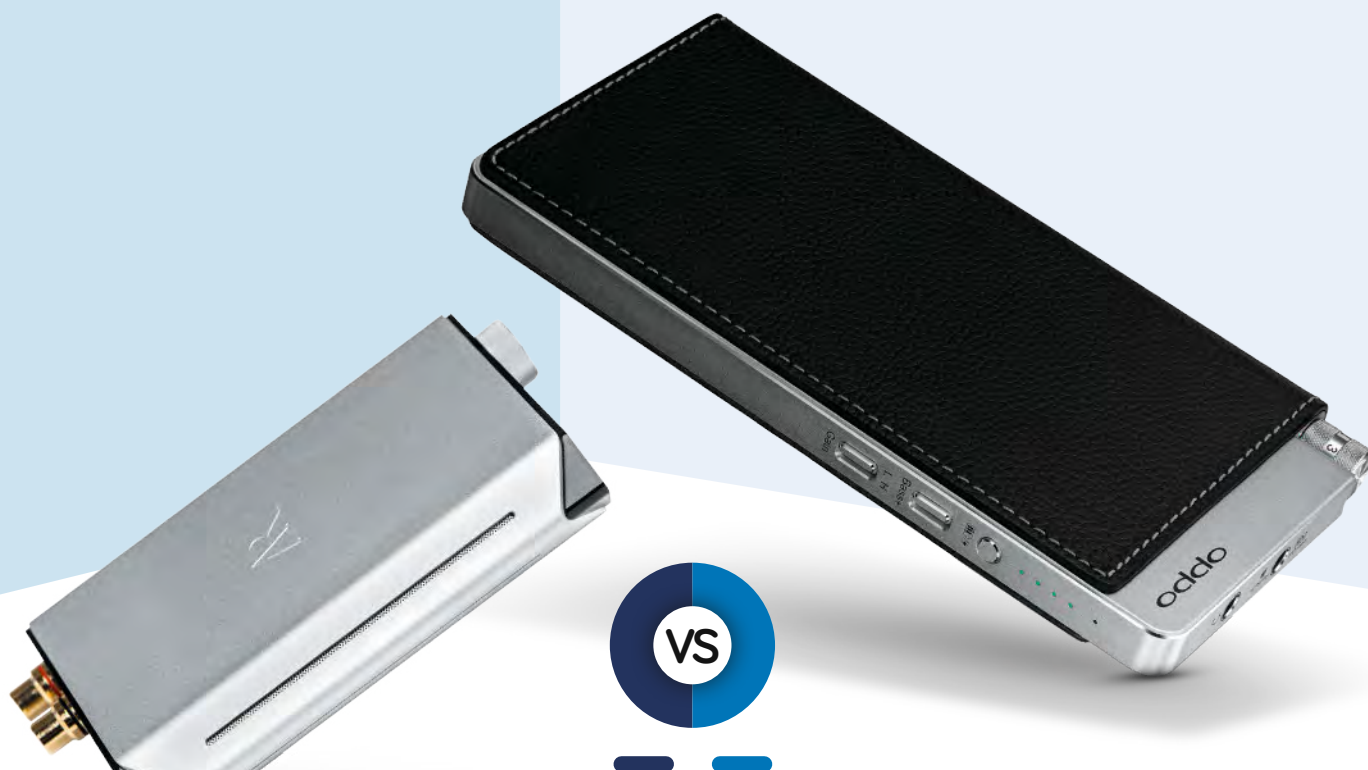
Accommodation-search site Booking.com already has an app for planning your holiday, but this is purely a last-minute bedfinder. It takes your normal booking preferences and finds hotels you'll (probably) like near your location.



APP SPOTLIGHT HEAVENSTRIKE RIVALS

£free / iOS, Android

Don't read another word unless you are unemployed, on school holidays, or both. You can tell from the above screenshot, or the title, or the fact that it's published by Square Enix, that this tactical RPG could be a timesucker. Collect and train your battlers and take them on an epic quest, or pit them against other *Heavenstrike* players. In-app cashstrikes are, of course, there for the impatient.



Desktop dangermouse ACOUSTIC RESEARCH UA1

This low-profile digital-analogue converter (DAC) sits on your desk at home, figuratively or actually between the tasty FLAC, DSD 64/128 or DXD audio files on your PC and your headphones – and, in turn, your ears. It takes its digital input and power from one of those burly-looking squarish USB jacks that you only used to see on printers, runs the signal through Burr-Brown PCM1794A wizardry and outputs it through RCA stereo plugs or a 1/4in headphone jack – not the 3.5mm mini-jack that's found on most headphones.

[E400 / acoustic-research.com](http://E400/acoustic-research.com)

Portable powerhouse OPPO HA-2

This Oppo DAC is designed to be used on the move. Which, you'd think, might make it a bit weedy. Not so. It has a special USB input for fussy iPhone/iPod signals, and another for everything else. Its 3000mAh battery can also be put in reverse to charge your phone. The ESS Sabre32 ES9018 DAC can handle PCM audio up to 384kHz/32-bit and DSD audio up to 12MHz, which is more than our ears can handle. Despite its size, you can switch up the output to handle audiophile cans, and there's even a bass boost control for those sleazy days.

[E260 / oppodigital.co.uk](http://E260/oppodigital.co.uk)

? WTF IS THE FLEXCHARGER?

Some kind of boring charger?

Super sleuthing there, partner. The old plug'n'charge doesn't exactly have us in raptures either, but the FlexCharger is more interesting than your average one. It has five different ways to charge your devices.

Woah, FIVE WAYS? Tell me more!

It's pretty exciting stuff. There are two cabled chargers – one complete with a crazy-long but retractable 3m cable, one with a short and stubby type – plus a tiltable dock charger and a USB 3.0 port. Is your mind blown yet? Because there's more...

There cannot possibly be more.

Oh, but there is. Ports and plugs are fine, but you're nobody in the charging world if you can't do wireless charging these days. And guess what: the FlexCharger can. So if you've got your eye on a Samsung Galaxy

S6 or S6 Edge, you'll be able to just chuck the phone on the handy flip-down wireless charging dock and get on with your life.

Great. But I'm a bit distracted by the fact that my Wi-Fi doesn't stretch to my bedroom. Bet your swanky plug can't do anything about that.

Actually the primo FlexCharger model comes with a Wi-Fi Repeater, meaning it can boost your existing network wherever you plug it.

Holy cow. That sounds amazing. What's the catch?

Well, it's not actually on sale yet – but you can pledge to buy one on the Indiegogo page. There are three models – the FlexCharger W/R comes with all the bells and whistles, the FlexCharger W has everything but the Wi-Fi Repeater, and the FlexCharger S comes without wireless charging.



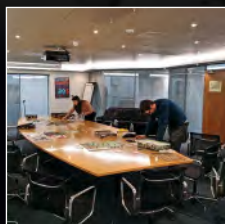
So how much are we talking here?

For the full model, you're looking at US\$150 if you buy through Indiegogo. When it goes on sale it'll cost you US\$200, which is pretty hefty for a phone charger. The cheaper options will come in at US\$120 and US\$100 – no word on UK pricing yet but the plug is compatible with international mains sockets so at least you know it will work when it eventually arrives.



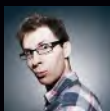
OUR MONTH

What the past 31 days have brought us by way of geekery

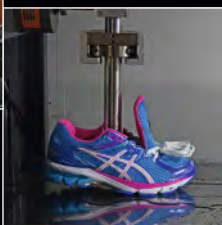


I PLAYED BOARD GAMES IN THE BOARD ROOM...

...tying up the company's swankiest room for six hours, forcing people in suits to lounge uncomfortably in breakout areas while we played all the games from this month's Choice on p28.

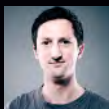


Will Clarke
senior designer /
sore loser

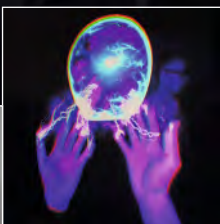


I SAW DANCING ROBOT FEET...

...testing trainers at ASICS Institute of Sports Science in Japan. My favourite is the robo-leg that moonwalks through a puddle to make sure the trainer's wet-weather grip is up to scratch. Look out for my full report on Stuff.tv

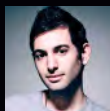


Mark Wilson
features editor /
turning Japanese

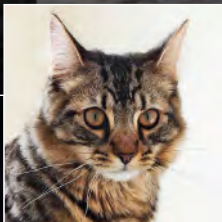


I SHOT ELECTRICITY OUT OF MY FINGERTIPS

Well, technically it was virtual electricity, made possible by an Oculus Rift. But thanks to the power of a Leap Motion sensor and a built-in camera, I saw my hands in the virtual world in real-time. I now understand the appeal of the Dark Side.



Esat Dedezade
staff writer /
handy man

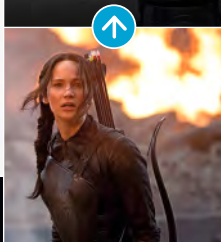


I PAID TRIBUTE TO LEONARD NIMOY...

...by naming my preposterously beautiful new cat after the late *Star Trek* actor. The little fella doesn't seem to be much of a sci-fi fan, but he does have Spock-style pointy ears. Because he's a cat.



Richard Purvis
production editor /
ailurophile



I WATCHED DISTRICT 13 GETTING SMASHED

Again, and again, and again. It's not that I've got anything against them. It's just that I've been playing with Onkyo's home cinema system that has extra speakers for the Dolby Atmos track on the Blu-ray of *The Hunger Games: Mockingjay*.



Fraser Macdonald
consulting editor /
Katniss listener



I GROUND MY THUMBS...

...with a ferocity not experienced since the last big PlayStation skating game. *OlliOlli 2: Welcome To Olliwood* is free on PlayStation Plus and, now with reverts and the ability to link tricks from one section to another, it's utterly relentless.



Ross Presly
deputy art editor /
sitting-room Z-boy

Reigning Tech



The Gadget Show

7pm Mondays
New Series

5

#TheGadgetShow



YOUR MONTH APR

This may be the best month of your year. It may not.



03

DARK SOULS II: SCHOLAR OF THE FIRST SIN

PC, Xbox One, PS4
Not only the 2014 game, but all of the DLC: Crown Of The Sunken King, Crown Of The Old Iron King, Crown Of The Ivory King. And not only that but new content, NPCs, gameplay and graphics tweaks for the new consoles.



13

WHAT WE DO IN THE SHADOWS

Blu-ray
While Bret McKenzie was writing Muppets songs and being an elf in *Lord Of The Rings*, his *Flight Of The Conchords* bandmate Jemaine Clement was making this mockumentary about vampires.



15

PAUL SIMON & STING

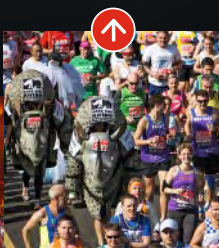
The O2
Dreams, sang Gabrielle, can come true. Never was that more clear than when we found out about this un-rock'n'roll duet/love-in. The one sings the songs of the other, and they both sing together. You'll be an unbearable humbastard for weeks afterwards.



24

DUNGEONS 2

PC, Mac, Steam
This could be the remake of 1997's *Dungeon Keeper* that 2011's *Dungeons* wasn't. The format's the same: point-and-click your dungeon into existence using the Mitten of Malevolence* and build your armies to run it. *Not official game terminology.



26

THE 2015 LONDON MARATHON

Marathons are marvellous things, so long as you're not actually running in one. As a spectator, or as support crew for a runner, there are endless opportunities to take great shots of a coned-off, closed-road city.



30

THE ART OF ELECTRONICS

(3rd Edition)
Paul Horowitz & Winfield Hill
A gargantuan geek's grimoire, newly released in third-edition form. As a reference tool for soldering-ironers it's indispensable; for the rest of us it's a coffee-table tribal identifier.

WIN



OUT
14 APRIL
ON PS4, PS3,
XBOX 360
& PC



TOTAL
PRIZE
VALUE
£1665

WIN A FULL PS4 RIG WITH GIOTECK, VIBE AUDIO & MORTAL KOMBAT X

Normally on this page we write a load of nonsense about baboons and pelicans and tomato soup, but we've got so much stuff to give away this month that we're going to have to skip the piffle and get right to the point. Which is that *Mortal Kombat X* is here for next-gen consoles, with a new storyline, and it's more brutal than ever. So...

First prize is a Sony PlayStation 4 (RRP £320), an LG 32LN540B HD-ready TV (£220), two Gioteck PS4 Super Accessory Kits (headsets, chargers and cables, £150), a Vibe Curve Bluetooth speaker (£100), a pair of Vibe BlackDeath Wraps in-ear headphones (£30), a Vibe Slick Grip tablet case (£30) and a copy of *Mortal Kombat X* (£55).

Two runners-up each get the Vibe BlackDeath Wraps and Slick Grip plus Vibe Slick Rok and Slick Cheese mobile amps for iPhone 5/5s, a Slick Base tablet workstation, a copy of *Mortal Kombat X* and two Gioteck Xbox Super Accessory Kits.

Another **eight runners-up** win *Mortal Kombat X*.

HOW TO ENTER

This could be your chance to turn your bedroom into the dark, foul-smelling 24hr gaming den you always wanted. Just go to stuff.tv/win and answer this question:

WHICH OF THE FOLLOWING ARE YOU MOST LIKELY TO BE OFFERED AT AN ITALIAN RESTAURANT?

- A ... Baboons
- B ... Pelicans
- C ... Tomato soup

HURRY!
COMPETITION
CLOSES
13 MAY
2015

Terms & conditions 1 Open to UK residents aged 18 or over. 2 Entries close 11.59pm, 13 May 2015. 3 Prizes are as stated. 4 Prizes are non-transferable. 5 Only one entry per person. 6 For full Haymarket terms & conditions see www.stuff.tv/legal
Promoter: Haymarket Media Group, Teddington, Middx TW11 9BE

gioteck

VIBE

facebook.com/vibeaudio

Gioteck is leading designer of gaming accessories for PS4, Xbox One, Xbox 360, PS3 and PC. Learn more at gioteck.com



DANISH DESIGN UNIVERSAL SOUND

Style? Or substance? Something's got to give, surely? Not if DALI's engineers are involved. And not when they're producing the KUBIK ONE wireless speaker...

We all know where the soundbar goes: under the TV. And it's long, black and unobtrusive... and maybe a little dull. Chances are it's also the best speaker in your living room. But it's tied to the TV, destined for a life of the news and (if it's lucky) televised gigs. DALI's **KUBIK ONE** wireless speaker changes all that. It's a soundbar (if you want it to be) – and it can sit under the TV (if that's the best place). But it's also a complete sound-system in its own right.

The KUBIK ONE uses the same knowledge, materials and techniques that make DALI's hi-fi speakers so well

regarded then combines that heritage with cutting-edge tech and design. The result is a system that's just at home on the wall or hi-fi rack as it is under the TV.

It uses Bluetooth to connect with any compatible device, has two optical inputs for connections to a TV and sound source, a USB input and analogue and subwoofer connections for even more options. Whether you're listening to a high-res symphony played from the computer (it handles files up to 24-bit/96kHz) or want a blockbuster movie to blow you away, the KUBIK is the ONE.



KUBIK ONE CONSTRUCTION

The KUBIK ONE uses the materials DALI uses in its high-end hi-fi speakers. The 13cm wood-fibre drivers are designed specifically for this system; the 25mm soft-dome tweeters use damping techniques for even greater detail. It's all housed in a single piece of extruded aluminium that keeps things rigid for punchy bass – but also compact. And there's no separate power box – compact switch mode power supplies the 100W class-D amplifier.

KUBIK ONE TECHNOLOGY

The speaker owes its quality to traditional hi-fi techniques but its tech is thoroughly modern. Want to start using? Hit play: the speaker detects and turns on the input automatically; Bluetooth 3.0 with Apt-X tech means great sound; there's a bass-level control to connect to any active subwoofer, the DSP ensures optimum sound quality; wide sound dispersion maximises the sonic sweet-spot for everyone in the room.

KUBIK ONE DESIGN

Danish design is famous for simplicity and elegance. The KUBIK ONE is sleek, compact, stylish and customisable. Blend in with the black cover or make a statement using any one of eight interchangeable coloured covers (samples featured below).



T7 Bluetooth Speaker with Micro Matrix™

Or in layman's terms,
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SEE YOU LATER REALITY

Fill your living room with lasers, pick up a pair of virtual hands, check your ammo and discover the 12 reasons why gaming is about to change forever



Words Will Dunn, Tom Wiggins, Tom Parsons, Guy Cocker

ONE

YOU'LL GET STEAM ON YOUR FACE

Put together the makers of our new favourite phone and the creators of *Portal* and *Half-Life*, and new worlds will emerge...

For over a year now, game developers and virtual reality geeks have talked in hushed tones of a place known as 'The Room': an experimental VR setup in the headquarters of Valve, the legendary developer of the *Half-Life* and *Portal* series. This was in fact two rooms: a physical room in which the walls were plastered with what looked like QR codes, allowing prototypes to track their position in 3D space; and a virtual room, an area in which people could physically walk around in a digitally rendered space – true, holodeck-level VR.

Like most things Valve, this was expected to remain a fascinating but intangible rumour. Until last month, when HTC announced to a startled press conference that it was actually building the thing, that it worked, and that you'll be able to buy one later this year. Jeff Gattis works on connected

devices for HTC – "basically everything that's not a phone", he explains – and was one of the early entrants into this semi-mythical chamber. "Valve are located about five minutes from our office in Seattle, so I went over there last summer for a demo," Jeff recalls. "I had been fairly sceptical about VR, because people have been talking about it for 15–20 years.

"I put this headset on and immediately I found myself on a two-inch-wide piece of wood, about 1000 feet above a canyon, and I was genuinely afraid. The guy in the room with me was saying, 'Go ahead, walk around', and I was having this mental battle with myself, saying, 'Jeff, you know you're in an office building right now, you're not going to get hurt.' But the other side of my brain was unable to stop thinking: *This looks really dangerous.*"



INITIATE FACE-LASERS

The difference between the headset that Valve and HTC have built and the VR systems we've seen so far is something the engineers call 'room scale'. Where your Oculus Rift and your Gear VR can tell where you're *looking*, the Vive knows where you *are*. So while the VR systems you may already have tried – if you haven't, get yourself some Google Cardboard straight away, you won't be disappointed – will change the way you see things based on varying degrees of head movement, the Vive actually positions you within a scene. How? By firing lasers at your face, of course.

"It comes with two laser-light trackers," explains Jeff Gattis, "that can be mounted on a shelf or placed on a table, and those are blasting lasers around the room." If you're starting to worry about your curtains catching fire, don't: Xbox Kinect also uses a laser grid to judge depth, as do many cameras. "That's what allows us to know the size and shape of the room. They work with the sensors on the HMD" – the ▶



WHY VIVE COULD BE THE FUTURE OF VR

- 'Room scale' tracking means you're positioned within a 15-foot-square space in which you can walk around things, duck and lie down. You can do the Funky Chicken if that floats your boat.
- The Vive will come with a pair of controllers that are also laser-tracked, giving you virtual hands to pick things up, fire weapons and interact in a complex way with the virtual environment.
- Valve's not-so-secret weapon: the 125 million people already playing games on Steam on a regular basis. If one in ten of them buy a Vive, virtual reality will go mainstream overnight.





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* Combined average runtime using two batteries across carpets and hard floors. Standard Mode. Results for individual floor types may vary.

** Per IEC 60312-1 1st Edition, Clause 5.9. Machine must be maintained as per instructed in the user guide. To max fill line.

† Pick up performance compared to leading GfK handsticks Dec 2013. Wilton carpet.

squares and scoops that give the Vive its extraterrestrial appearance — “to create what we call room scale. Combine that with 360° tracking, and you’re not confined to a seated experience any more: you can actually get up and walk around. That’s when it becomes very realistic, and it opens up a lot of interesting doors.”

HANG ON... WON'T I BUMP INTO THINGS?

The two reddish dots on the front of the Vive headset are there to supply what Jeff calls Chaperrone

Mode: “They’re front-facing cameras that detect when you’re getting close to a wall, or if there’s a chair in front of you, and it’ll show you there’s an obstacle or give you an audible warning.”

Still, you can’t help feeling that if even a tenth of the 125 million people who regularly play games on Valve’s Steam platform start using Vive, there are going to be a lot of stubbed toes. Remember all those people who went for an over-enthusiastic tennis serve or golf swing and put their Wiimote through their TV screen?

HALF-LIFE 3

It’s a good thing this is a magazine and not the internet, or you’d already be composing an angry comment about how the rumoured final instalment of the Greatest Game Ever isn’t real (yet). We share your frustration. But consider this: the Vive may very well be the reason Valve has made

its vast army of fans wait so long. In our demo time with the device (see next page) we saw strong evidence that a new version of *Portal* is being worked on, and the controllers that HTC and Valve are developing to work with the Vive will allow you to pick things up, to open and close doors, to throw punches and fire guns.

As with all things game-related, Valve is remaining so tight-lipped you’d think they were snorkelling, but that only feeds our desire to get into the rooms and canyons and alien worlds the Vive will provide. We’ll see you there.

“IT’LL DETECT WHEN YOU’RE GETTING CLOSE TO A WALL, AND SHOW YOU THERE’S AN OBSTACLE”



THE TECH BEHIND THE MASK

- The displays are a pair of 1200x1080 screens that are being custom-developed for the device. They can refresh at 90 frames per second, considerably faster than next-gen consoles.
- More than 70 separate sensors are packed into the Vive’s alien facemask. The pits in the surface hold sensors for laser tracking, while accelerometers and gyroscopes judge the angles.
- The developer kit, which goes on sale later this year, will look like this, but the more polished consumer version is being designed by the team behind the HTC One. So it might be metal.
- The controllers will probably take a bit of getting used to: HTC tells us they’re nothing like traditional game controllers, but more like a pair of finely positioned virtual hands.



HANDS ON WITH VIVE TOM PARSONS



No-one but me was allowed into HTC's top-secret Vive demo room at Mobile World Congress. At the centre was a mass of cables (so many, in fact, that I had to wear a special belt to keep them out of the way during the demo) but HTC assured me there will be just one cable on the final version – from the headset itself to the computer.

Vive's lighter than it looks, even with the dangling wires, and it feels very comfortable when in position. There's soft padding around the eyes and the straps of the prototype strike a nice balance between being comfortable and keeping it secure.

THE FAT CONTROLLERS

The final version of the two controllers I'm handed will be wireless, but I hope Valve and HTC otherwise change very little. They look rather like embiggened Wii Nunchuks with a big array of sensors stuck to the top, like a high-tech Cornetto. Your thumbs rest on the same sort of haptic trackpads first seen on the Steam Controller, there's a trigger button under your forefinger, and the whole controller acts as another button when squeezed. It's immediately comfortable and natural to hold.

Then the two 1080p screens burst into life. You can read about the demos I experienced to the right, but suffice to say for now that I was completely blown away by it. It's just so immersive and so real, and every one of

the demos has shown me a new way in which virtual reality can revolutionise games.

FLAW SPACE

There are things that need some attention: I felt that objects blurred a little when viewed very close-up, and seeing as the laser positioning tech invites you to move around and get your face right into the action that's an imperfection I hope gets ironed out. But the way you're totally immersed in the virtual world, the smoothness of the motion (the 90fps refresh rate seems plenty to me), the interactivity and the awesome scale of everything has shaken up my brain.

There are also lots of questions that still need answering. For a start, playing in a perfectly square, furnitureless box is one thing, but what about the sofas, coffee tables, dogs and children of a real human person's lounge? What happens when a game wants you to reach a point beyond the physical confines of your room? Aren't the Lighthouse lasers going to contribute to making Vive crazy expensive for the player? HTC isn't answering any of those questions at the moment.

GOGGLE-EYED

But that doesn't bother me right now. Right now I'm still grinning from ear to ear, and I'd sell a kidney and throw out all of my furniture if that's what it took to get Vive at home.

Because I've experienced the future of gaming, and it makes the present of gaming look rather dull and flat by comparison.

WHAT WE PLAYED

THE REAL-TIME STRATEGY ONE

I'm looking at a tiny army attacking a fortress. I step back and realise this virtual battle is taking place on a virtual table, so I lean forward and peek over the fort's wall to see a soldier reading a paper on the toilet. Beneath the table, a couple of sneaky chaps are digging a tunnel underneath the fortifications. I never considered the impact VR could have on strategy games, but I'm now massively excited.



THE MASTERCHEF ONE

I'm in a kitchen with a robot telling me to make soup. I pick up a tomato using the trigger on the left controller and drop it into the saucepan on the hob. Then I grab two mushrooms, one in each hand, like some kind of multi-tasking kitchen ninja. After shaking some salt into the pan, I'm rewarded with a can of soup. The accuracy and the natural feel to the physics are remarkable.



THE ARTY ONE

I'm in a dark, empty space. Holding the trigger on the right pad allows me to draw three-dimensional patterns, sort of like waving a sparkler. Swiping your thumb across the touchpad on the left controller takes you to different menus, while pointing at them with the controller in your right hand allows you to select different patterns and symbols, so you can 'paint' with fire, snowflakes or leaves.



PORTAL 3... WAIT. REALLY?

Well, maybe. I'm in a square room that looks a bit like a lab. I open a door and see Atlas from *Portal 2* standing there. Am I playing what I think I'm playing? Suddenly GLaDOS appears, the walls fall away and I catch a glimpse of a room containing a Companion Cube, before I'm crushed in a trash compactor. Perhaps it's just a tech demo but it was so polished I'm convinced there's more to come.



TWO

VIVE WON'T BE THE ONLY ONE

Sony's own VR headset will launch in 2016, and it's had an upgrade since we saw it for the first time last year

Sony's Project Morpheus headset received a host of updates for this year's Games Developer Conference, and while it doesn't look drastically different there have been improvements, including a 120Hz refresh rate and new OLED display.

Project Morpheus was always the most stylish virtual reality headset when compared to Oculus's somewhat cobbled-together Rift, but the new model really looks like the finished article – the Apple to Oculus's Android.

In terms of overall concept and execution, *The London Heist* was the best 'game' we played. You start out sitting on a chair (in both the game and real life), with a shaven-headed



gangster type in a vest standing over you menacingly with a blowtorch. But before he gets a chance to flambé your fingers he receives a call and hands you the phone, which you take using a clever motion-sensing Move controller.

As you take the call (with the audio coming from the controller's speaker), you're plunged into a flashback to the mission that presumably landed you

in this predicament. You've broken into an ornate mansion, and you must open various drawers until you find a key. Using that key to open another drawer, you find a gun.

Suddenly, alarm bells ring, bad guys burst through the door and the game becomes a cover-based shooter where you have to physically duck behind in-game furniture to avoid being shot. Inside another drawer you find some ammo clips, which you combine with the gun using the Move controllers and fire away. When you've taken out the guards, the demo ends, and you return to reality.

It might not be a confirmed game for Morpheus but it shows that Sony's getting to grips with its VR future.

HEADSET 2.0

- The original had six LED lights to help the camera track its position; this one has nine

- The new headband better distributes weight across the head, while the plastic bonding where the eye sockets meet the display is soft and comfortable

- The OLED display has been bumped up from 5in to 5.7in, with a resolution of 1920x1080 and 120Hz refresh rate



GET
THE
TECH
NOW



Immerse
Virtual Reality
Headset

Not as cheap as making your own Google Cardboard headset but a lot less hassle, this plastic chassis is essentially a shell for some lenses. Just stick in your phone to enjoy.
£30 / firebox.com



Oculus Rift
DK2

It's not the finished product yet but that doesn't have to stop you buying one. You'll have to know what you're doing to get games working on it, but if you really can't wait...

US\$350 / oculus.com



Samsung
Gear VR

You'll need a Galaxy Note 4 or S6 but this will give your phone full virtual reality powers, using its built-in motion sensors to turn videos and games into head-turning experiences.

£170 / samsung.com/uk

THREE

IT'LL TAKE OVER YOUR LOUNGE...

Get rid of your three-piece sofa set and eBay the coffee table; you're going to need that space for augmented reality games



HOLOLENS

Microsoft's HoloLens headset might not strictly be for gaming but it's been shown being used to interact with a *Minecraft* world created in a living room, so the potential is definitely there. HoloLens looks not unlike a futuristic safety visor and turns icons, menus, 3D models and videos into holograms that are intelligently mapped to the room you're in.

You interact with the holograms using gestures or voice controls, or just by looking at different objects, while spatial sound means they can emit sounds from the correct position in the room. It's wireless, so there's no cable to snag on your collection of priceless Ming vases as you spin around to deal with a zombie invasion from behind the curtains.



MAGIC LEAP

Despite receiving over \$500 million of Google's pocket money last year, Magic Leap remains incredibly mysterious. What we do know is that it's working on some sort of wearable AR device that'll superimpose computer-generated objects into real life. It'll do that by projecting directly into your eyeballs, which is supposed to make the images practically indistinguishable from the stick-your-hand-out-and-touch-it stuff that's in the room with you.

They call it Dynamic Digitised Lightfield Signal and there are certainly big promises being made; if those are kept when the first hardware is revealed, we might see what convinced Google's bank manager to hand over the chequebook.



CASTAR

CastAR's take on augmented reality is similar to the AR games you get on Nintendo's 3DS. Rather than viewing the world through the console's camera, CastAR projects the image onto a pair of lenses worn on your face, using a special sheet placed in front of you as a kind of anchor for the image and how it should behave in the real world. That means you can move all the way around it for a full 360° perspective, and even add other players wearing CastAR glasses for their own unique views.

CastAR's creator Technical Illusions has recently shown off a *Marble Madness*-style game for it but the idea of huge, multiplayer real-time strategy games being played out across the living-room floor is what really excites.

GET
THE
TECH
NOW



New Nintendo 3DS XL

Ninty's new larger handheld comes with a set of alternative reality cards that can be used in certain games, or to make your Mii character come to life on the table in front of you. You can even download and print out bigger ones that'll make Mario tall enough to pose for a selfie.

£180 /
nintendo.co.uk



IMMERSIS

Back in 2013 Microsoft showed off a projection system called Illumiroom, which burst the banks of your TV screen to project surrounding picture detail from games onto the walls. It looked great, but never materialised as a shut-up-and-take-our-money actual thing. So, a French firm called Catopsys has built it instead.

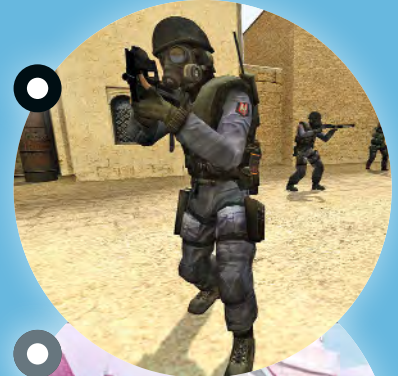
Once calibrated, Immersis uses a combination of 3D mapping and a fisheye lens to project games onto the wall behind and either side of your telly, turning one whole side of your lounge into an IMAX-rivalling screen. It hit its Kickstarter goal in February, with Nvidia also pledging support for this 'inverted VR' system. It only works with a PC or Mac but, if it's a success, you can expect Microsoft to revisit that Illumiroom concept in a big way.

180-DEGREE TV

The Pixar-lamp-like, foldable Immersis projector is available to pre-order now until June 2015 at a discounted price of €1800, from immersisvr.com



FOUR



MODS WILL BE THE NEW BLOCKBUSTERS

Counter-Strike ● began life as a home-made modification of *Half-Life*, but with Valve's help it became a multiplayer phenomenon that dominated online first-person shooters for years. So whether it's the group of Mariophiles crafting an HD remake of **Mario 64** ● or *Arma 2* fans tweaking their game into the hugely popular survive-'em-up **DayZ** ●, it's become far easier for mods of existing games to find an audience beyond the niche in which they used to live. Now that any properly equipped geek (that's you, *Stuff* reader) can create a game and make it available to gamers all over the world, it's only a matter of time before one of them is considered up there with *Half-Life 2* and *Ocarina Of Time* as one of the greatest games ever made.

FIVE

YOU'LL PLAY THESE...

It's not all about VR and AR, you know: gaming's all about these things called 'games' too, people



ELITE DANGEROUS PC, MAC, XBOX ONE, PS4

David Braben's space sim is only available if you fly onboard the good ship PC, but there's good news for the Starship Xbox One and USS Mac. *Elite Dangerous* is coming to both this year, with PS4 to follow "eventually". No word on when that'll be, so to become a console cosmonaut, moonbase Microsoft is your only option to begin with.



KEEP TALKING AND NOBODY EXPLODES PC, SAMSUNG GEAR VR

Bomb disposal might seem exciting but in reality there's probably nothing more tedious than deciding which wire to snip next. *Keep Talking And Nobody Explodes* makes it more exciting, with one player wearing a VR headset to see the bomb, and the others forming a team of 'blind' helpers offering advice.



METAL GEAR SOLID V: THE PHANTOM PAIN PS4, XBOX ONE, PC

Now confirmed for release in September, *Metal Gear Solid's* first foray into open-world gaming will be boosted by a proper day/night cycle and changeable weather. It'll also have Metal Gear Online, which adds a multiplayer mode with balloon traps that leave enemies dangling helplessly in mid-air.



THE FLAME IN THE FLOOD PC, MAC, PS4

Made by a team that can almost all list *Bioshock Infinite* on their CVs, *The Flame In The Flood* is an RPG river-rafting adventure, where you stop off to forage for supplies and tools, accompanied by your faithful hound, Aesop. If you die you have to start right back at the beginning again, but the river and the world's nasties are procedurally generated, so it'll feel fresh each time.



MEGATON RAINFALL PC

Is it a bird? Is it a plane? No! It's you wearing a VR headset and 'flying' around your lounge wearing your pants on the outside and an apron as a cape. You're playing *Megaton Rainfall*, a superhero sim that includes occupational hazards not usually mentioned when saving the world from aliens — namely the accidental destruction of the city you're trying to save thanks to wayward energy blasts.



SHOVEL KNIGHT PC, WII, 3DS, PS4, XBOX ONE

Having won plenty of fans on PC, 3DS and Wii U, retro side-scrolling platformer *Shovel Knight* is coming to Xbox One and PS4 this month — and its spade-wielding hero is bringing a few friends. Sony fans will get to fight Kratos from the *God Of War* games, while Xboxers see the return of the *Battletoads*. No prizes for guessing who got the better deal there.



ROCK BAND 4 PS4, XBOX ONE

In the biggest musical comeback since Led Zeppelin reformed to play one night at the O2, plastic instrument fest *Rock Band* is getting the band back together for a tour of new consoles later this year. Fans of the original games, dust off your setlists and rejoice: every song you bought for previous versions of *Rock Band* will be compatible with the new one — which, combined with the new tracks on the disc, will bring the potential setlist to over 2000 songs.

Harmonix is working on making the old instruments next to the box of cables in your loft work with it too, but obviously there'll also be new ones available just in case your lead guitarist smashed yours up at the crescendo of a face-melting solo.



SIX



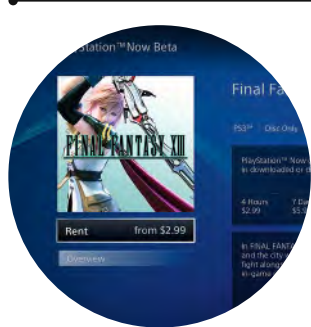
YOU'LL PLAY THE SAME GAME FOR TEN YEARS

There are few things more annoying than when a new version of a game comes out every year and all that seems to have changed is the colour of the menus. So much for value for money, eh? Well, inspired by **World Of Warcraft** ● **Destiny** ● has started a trend for games with far longer lifespans that could see you playing as the same character for a decade across multiple different games based in the same universe. *Destiny's* ten-year plan will take in three proper sequels, plus three large expansion packs in between those, while Slightly Mad Studios hopes **Project Cars** ● will have a similarly lengthy innings, establishing a platform for hardcore racing fans to drive on for many years to come.

SEVEN

YOUR CONSOLE WILL DISAPPEAR

Like it or not, there's a good chance your PS4 or Xbox One will be the last actual console you ever own. But what's coming in its place?



PS NOW

Launched in the US in January and coming to Europe this year, PlayStation Now offers games to rent for various periods up to a maximum of 90 days, or an all-you-can-rent subscription to over 200 PS3 games. While it's for their consoles, you won't necessarily need one to use it; Bravia TVs support it now and both Samsung tellies and Sony Blu-rays will get access soon. Add PS4 games and we'll be able to throw that useless black box in the sea.



NVIDIA SHIELD

It might look like a console but the Shield is more of a streamer. It runs Google's Android TV OS and allows you to download versions of *Crysis 3*, *Metal Gear Rising: Borderlands: The Pre-Sequel* and *Revengeance*, or stream from Nvidia's Geforce Grid service. And it looks like Grid will offer more recent games than PS Now, such as *MGS 5*, *The Witcher 3* and *Batman: Arkham Knight*. And when it's not playing games, the Shield can stream 4K video.



STEAM MACHINES

It's not just HTC that's making kit for Valve: its Steam machines will finally be here in November. There'll be 15 models, from entry-level efforts by iBuyPower and Alienware that weigh in around the £300 mark, to rip-snoiting frag fortresses such as Falcon Northwest's Tiki and Origin PC's Omega, which offers up to three Geforce GTX 980 graphics cards and 32GB RAM. Surely one of these will run *Crysis*?



MOBILE VR

Vive, Project Morpheus and Oculus Rift all rely on a separate console to do the heavy lifting – but the future of virtual reality is untethered. While the graphics produced by Samsung's Gear VR currently aren't good enough to match the PC-powered headsets, it won't be long before phones are capable of pumping out the graphics needed for truly convincing VR. That will also remove the need for wires, increasing the sense of otherworldliness.

EIGHT



YOU'LL BE A STREAMING SUPERSTAR

Right now you're probably wondering what all the fuss is about with video platform Twitch, but 55 million users can't be wrong. The site, which allows you to watch or stream your own gaming sessions, is

fast becoming a rival for YouTube when it comes to broadcasting yourself, with some users earning over US\$100,000 from their streams. Admittedly not many viewers are likely to tune in to

your perpetual slaughter at the hands of some teenage *Destiny* ninja, but perhaps you could pitch it as a comedy show? You could call it *You've Been 30 Framed Per Second*. You can have that one for free.

D5500

"You don't need many ideas, only a new perspective."

Andrius Aleksandravičius

I AM DIFFERENT

Shot by Andrius Aleksandravičius in Valencia
with 14-24mm NIKKOR | Exposure 1/100s | ISO 500
Photo © Andrius Aleksandravičius



Photographer Andrius Aleksandravičius expresses the full potential of his creativity – and so can you. Turn your ideas into great images with the advanced technology of the D5500. Get inspired by Andrius' full story and take your photography to the next level with the D5500. Visit europe-nikon.com/iamdifferent



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NINE

YOU'LL PLAY WITH YOUR EARS

You not only have to see it to believe it, but hear it too: how will VR trick your lugholes?

When you first put on a VR headset, the first sense that has its socks blown off is your sight. That's to be expected when you're suddenly seeing an entirely new world that you can look around just by, well, looking around; but what goes in your ears plays an equally important part in tricking your brain to think it's somewhere it's not, and it'll be crucial to storytelling and gameplay.

Developers will have to use more natural audio cues to attract your attention – or even distract you – rather than relying on presence-ruining visual indicators, or forcing your eye using camera movement like they would in a film. So what are the options?



LEFT CHANNEL DOLBY ATMOS

VR movie maker Jaunt has just brought Dolby's Atmos tech to VR using an Android app, meaning audio can be accurately positioned anywhere within the headset space. Sounds are positioned digitally, so you can be highly specific in where they're located and how they move within the 3D world. Jaunt deals in movies – the first clips it's produced with Atmos for VR are from a Paul McCartney gig, a monster movie called *Kaiju Fury!* and horror flick *Black Mass* – but applying the same tech to a digital world should be simpler than the complicated recording techniques required when filming live action.

RIGHT CHANNEL BINAURAL AUDIO

Then again, all Dolby's hard work could be rendered useless by a 100-year-old technique that sounds perfect for virtual reality. Binaural recording uses just two microphones that are positioned to replicate the ears on your head, sometimes even with a dummy noggin in between them. The mics are placed inside ear-shaped moulds to reproduce the way sound waves find their way around your head and into the ear canal. It's basically virtual reality for sound. Edinburgh-based Two Big Ears has already developed a binaural-style audio engine for Oculus Rift called 3Dception.

GET
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TECH
NOW



Onkyo HT-S770S

This Atmos-equipped home theatre in a box is the easiest way to start fooling your earholes, although there are still only a small number of Atmos Blu-rays at the moment. £800 / eu.onkyo.com

TEN



MARIO WILL BE BACK

In recent years Nintendo has struggled to recreate the huge success of the Wii, but there are signs that a change of approach could put Mario and co back in the spotlight. One area that the company has never struggled with is software, and even with the Wii U hardly flying off the shelves the excellent **Super Smash Bros** ●, **Bayonetta 2** ● and **Mario Kart 8** ● are ample proof of that. While it's highly unlikely that Ninety will port **Mario 64** and other classics to iOS and Android, president Satoru Iwata recently said he hasn't ruled out making games or using existing characters for standalone phone and tablet apps. Coupled with Nintendo's new friendlier attitude towards indie developers on its eShop, we could see a second coming for *Donkey Kong*.



IT'LL READ YOUR THOUGHTS

Adding pixels is one thing. Adding the power to explode your enemies' heads with your mind... that's another

Considering the graphical leaps that gaming has made in the past 30 years, the way we interact with games hasn't really changed much at all. Aside from the touchpad on the PlayStation's DualShock 4, console controllers are just more complicated joysticks with better accuracy and extra buttons. For a few years the wand-waving Wii bucked the trend, but now we're back to a thumb-centric existence.

VR-compatible horror game *Nevermind* hopes to change that. It's been coded to work with various heart-rate monitors, which alter the game depending on your vital signs. The plot reads like one of David Cronenberg's nightmares: you play a doctor who's able to climb inside



the minds of patients who have experienced trauma, and your mission is to hunt out the source of their repressed terror.

A heart-rate monitor isn't required to play but if you have one on it will make the game harder, depending on how stressed you are, filling the screen with static or preventing you from advancing to the next point until

you calm down. It also works with Intel's RealSense cameras, which read subtle fluctuations in skin tone that are related to how fast your heart is beating, much like the Xbox One's Kinect does. And it's not just for japes; it was made to help stressed people learn coping methods.

MindMaze's MindLeap takes things a step further. The headset not only tracks your hands in space thanks to a Kinect-style camera, but has a thick mesh that covers your head and uses EEG sensors to pick up brain activity, similar to those used to control prosthetic limbs. It turns these signals into commands, which could, with a bit of tinkering and possibly some updated brainware, allow you to control games with your mind.

GET
THE
TECH
NOW



Xbox Fitness
Free for Gold members, these workouts are hosted by people who make you feel guilty for eating anything other than celery. It uses Kinect to check that you're doing each exercise correctly and detects your heart rate, so it won't let you stop until you work hard enough.

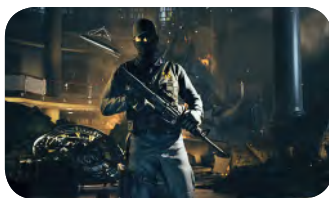


TV TIE-INS WON'T BE RUBBISH

How many times have you been let down by the game version of your favourite programme? Not any more...

Ever since we were disappointed by *Masterchef: Advanced Kitchenware* and *Donkey Kong Countryfile*, we've tended to avoid any games that tie in with TV shows. One developer, however, has managed single-handedly to change that perception. Telltale's *The Walking Dead* and *Game Of Thrones* titles have taken the quality of storytelling seen on the shows and translated it brilliantly into point-and-click adventures, and now they're taking it one step further. Lionsgate, the company behind the *Hunger Games* films and *Mad Men*, has invested in Telltale to turn new and existing shows into games.

Telltale's games tend to exist in the same universe as their source



material but tell separate stories, so they can develop independently of each other. You visit locations and meet characters you'll be familiar with from the telly, but you don't need to experience one to make sense of the other.

In a world where TV habits are increasingly removed from the traditional schedule, that makes a lot of sense, but Xbox One exclusive

Quantum Break will have its own TV show that, according to maker Remedy, will be directly shaped by how you play the game. How? That's a good question. Assuming there isn't just one incredibly linear way to play the game, it's hard to see how an episode of a TV show will be different for different people who watch it... but apparently it'll work the other way too, which makes more sense. Watching the show is supposed to give gamers hints and tips for playing the game, allowing them to uncover parts of it you wouldn't find without watching its telly companion, and presumably letting those who just want to play the game work their way straight through the story in blissful ignorance.

GET
THE
TECH
NOW



Game Of Thrones

Telltale's six-part *Game Of Thrones*, er, game is set at the same time as the show's fourth series and focuses on the members of House Forrester. Think very carefully before double-crossing someone.

PS4, PS3, Xbox One, Xbox 360, iOS, PC, Mac

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naimaudio.com



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FOR
NO-SIGNAL
CALLS

● Three InTouch

In a mobile not-spot but can connect to Wi-Fi? This app lets you turn that glorious internet into texts and calls as if you were connected to your Three mobile network. There's even a natty option to choose which Wi-Fi hotspots to ignore, such as the one at home, but connect automatically to the in-laws' router when visiting in the Pennines. And it works on the tube – though other commuters will think you're a crazy person talking to no one.

Stuff says ★★★★★
free / Android, iOS

FOR
PLAYING
PODCASTS

● Overcast

Recently rediscovered the beauty of the podcast thanks to *Serial*? Then you need a more powerful podcast player, and Overcast is a good bet on iOS (the Android app of the same name seems unrelated). Finding new podcasts is far easier than with Apple's app, it looks much prettier, and automatic background downloads are supported. It works with CarPlay too – just in case you're one of the three people in the UK who's got it.

Stuff says ★★★★★
£free / iOS

FOR
CANNY
LOGINS

● Dashlane

Dashlane saves and encrypts everything from passport details to online passwords. It's so secure that if you forget your master password, no one (not even Dashlane) can get in. So don't forget it. The app comes with a premium trial, which lets you sync all your info across multiple iOS and PC versions. An optional Android keyboard and browser let you auto-fill logins online, though we'd prefer to choose our own. Overall, this is the scatterbrain's saviour.

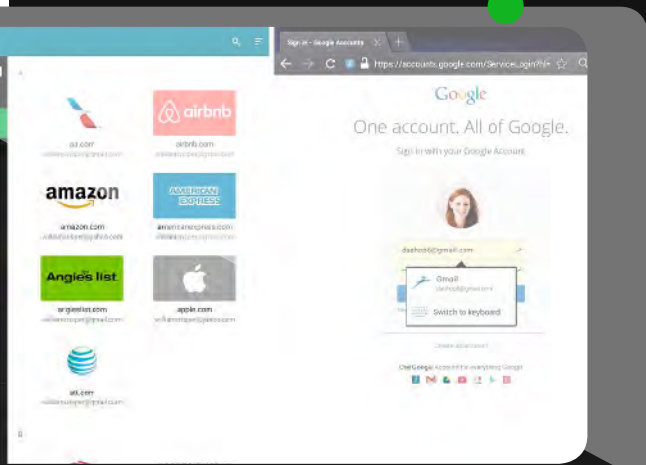
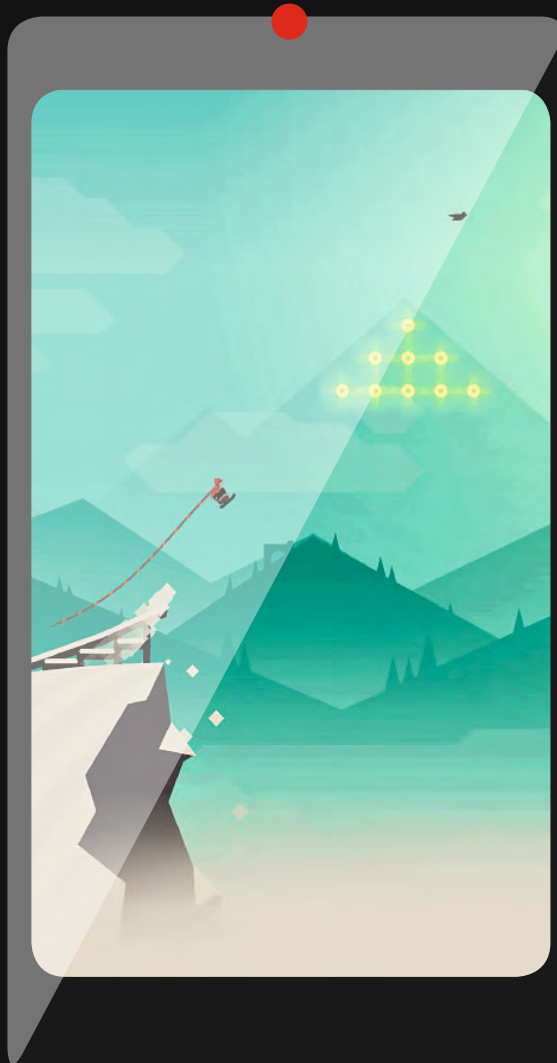
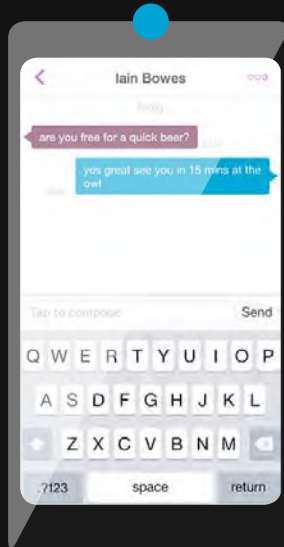
Stuff says ★★★★★
£free / Android, iOS

FOR
SNOW
FLIPS

● Alto's Adventure

Like a combination of Canabalt and Whale Trail (with added llamas), Alto's Adventure is a beautifully designed, one-button endless runner (well, snowboarder) that starts at the top of a procedurally generated mountain. We assume there is no bottom, but in your quest to reach it you'll jump chasms and do flips, day will turn to night, rain and snow will fall and you'll be pursued by spooky elders. An elegantly simple throwback without any in-app purchases.

Stuff says ★★★★★
£1.49 / iOS





● Korg Gadget

A true masterpiece, Korg's app shoehorns 15 'gadgets' — tiny synths — into your iPad. Individually, these can be played live, but there's also a superb piano-roll/arrangement system for rapidly putting together multitrack compositions. Note that you'll need an iPad Air to fully take advantage of the app's power.

Stuff says ★★★★★
£29.99 / iPad

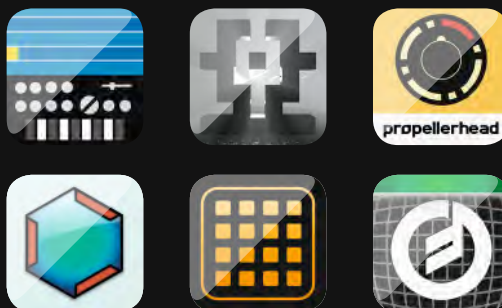


● SunVox

This one has the kind of interface that might make your brain ache and then possibly break. 'Daunting' is a pretty good description. But put in the hours to get to grips with its quirky scaling view sections, old-school tracker and modular component chaining, and you'll find a modern, exciting music-making app that's unique and powerful.

Stuff says ★★★★★
from £3.99 / Android, iOS

Mini meme



MUSIC MAKING APPS

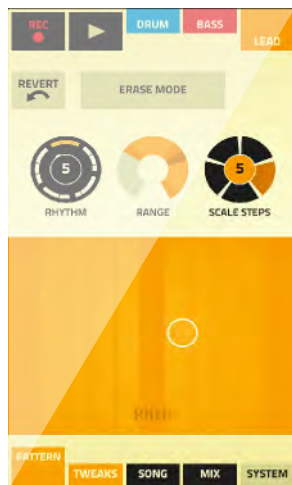
There was a time when you'd have to hire out a massive studio to turn your grimestep opera concept into radio-friendly reality; now you can make music by prodding your screen!



● Animoog

Our absolute favourite live synth for mobile, Animoog is a slice of genius. Rather than cloning old kit, it merges old and new — classic sounds and a modern touchscreen interface. Its recording features are a bit weak, but Audiobus and Inter-App Audio support provide plentiful means of safeguarding your synth wizardry.

Stuff says ★★★★★
£22.99 / iOS



● Figure

If you're of a certain vintage, you may well have experimented with Propellerhead Software's PC apps. Figure is a razor-sharp mobile distillation of selected Reason synths, combined with a tactile dial/pad interface that makes it a cinch to work up powerful electronic loops, regardless of your technical ability.

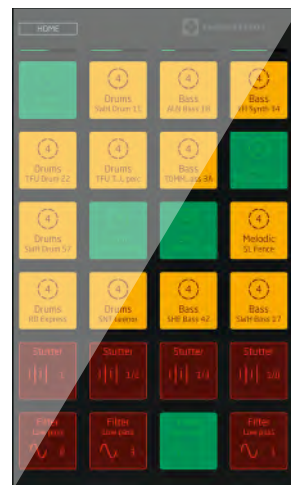
Stuff says ★★★★★
£0.79 / iOS



● Caustic

Although it's also available for iOS, Caustic is mainly in this list for Android users. Inspired by rackmount rigs, the system enables you to combine synths and effects, play live, or write to a piano-roll. Caustic's UI is less elegant than Gadget's, but it impresses with superior mastering and far more flexible FX options.

Stuff says ★★★★★
from £free / Android, iOS



● Novation Launchpad

If you lack a musical bone in your body, try Launchpad. You can't go wrong — simply choose a genre and tap to activate loops, feeling like a pro as your mix builds and fades. An actual pro? Transform the app via the audio import IAP for adding your own loops. On Android? Try the broadly similar GrooveMaker 2.

Stuff says ★★★★★
£free / iOS

Heady metal

It's time to meet one of 2015's most important phones: this is HTC's Android flagship, and it's one of the most desirable handsets ever made

from £580 / htc.com

HTC really hit the bullseye with the One and One M8. No surprise, then, that it hasn't rocked the boat too much with this year's model, the unsurprisingly named One M9, which it's hoping can take an early lead in the 2015 flagship phone race – and stay there.

It has the same values, a similar design; and, like its daddy, it doesn't try to pack in quite as much future tech as the practically overflowing Galaxy S6. But maybe that's no bad thing, and there are plenty of little tweaks instead.

The M8's UltraPixel camera was amazing in low light but low on detail; the One M9 fixes that by switching out the sensor for a 'normal' 20.7MP one, and moving the light-gulping UltraPixel sensor to the front. The latter is perfect for selfies, if you must take them, because it doesn't need a flash.

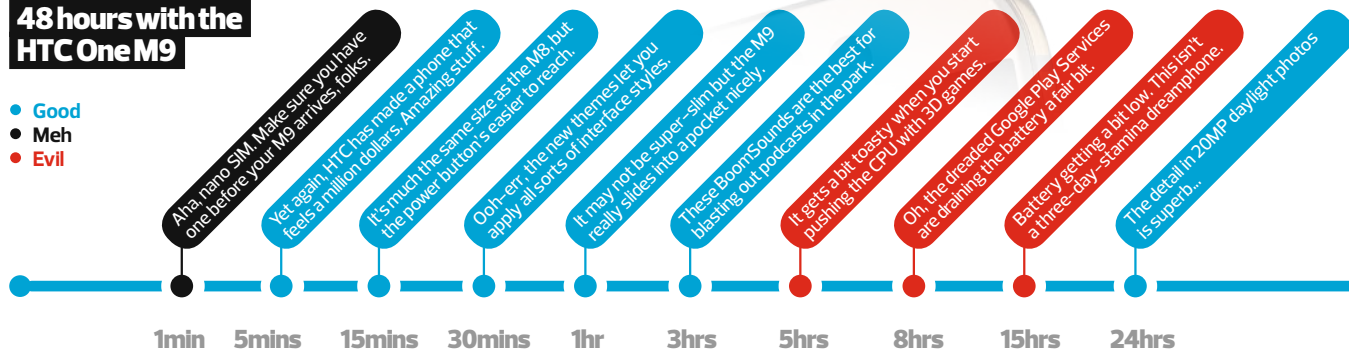
The button layout has also been improved, there's more software customisation on offer and all the brains have been schooled-up to 2015 standards. But the rest is classic HTC One style all the way.

That means you get a phone that feels flat-out amazing, speakers much fuller-sounding than any of Samsung's and a classy-looking but highly customisable interface. Will that be enough for it to work its way into our affections? And how long can it stay ahead of the pack?



48 hours with the HTC One M9

- Good
- Meh
- Evil





1 Hello, metal

It's not a huge design departure from the One M8. The curvy brushed aluminium shell is still there, now with a natty two-tone finish: silvery back, low-key gold on the sides. It feels fantastic, and as the screen is a sensible five inches it isn't a real palm-stretcher.

2 Boom for your temples

Sound is one of the HTC's greatest assets. The One M9 has great front-facing stereo speakers: the BoomSound twins. They get you much deeper, fuller sound than most phones. And new for this year is Dolby DSP, which makes it sound even more expansive.

3 Make it snappy

The M9 has one of this year's top processors, the 64-bit Snapdragon 810. It gets you eight cores and absolutely loads of power. However, it does kick out a fair bit of heat. The back of the phone can get pretty warm when you start doing anything particularly taxing.

4 No way, 2K

HTC has not been suckered into any of those screen fads. Outdoor visibility is improved since the early days, but the One M9 has a 1080p LCD screen just like its predecessor, not a super-duper high-res QHD one. There's not a huge difference, though: it's a corker.

5 Talking Sense

On top of Android 5.0 Lollipop the M9 uses a custom interface called HTC Sense. Bits worth a mention include its themes, letting you give it a one-button facelift, and a smart widget that switches around the apps on your home screen depending on where you are.

Tech specs

Screen 5in, 1080x1920 SLCD3

Processor Octo-core Snapdragon 810

OS Android Lollipop 5.0 with Sense 7

Camera 20.7MP rear with dual-LED flash, 4MP front

Battery 2840mAh (non-removable)

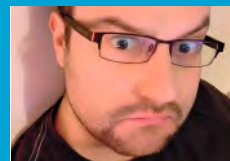
Storage 32GB with microSD

RAM 3GB

Dimensions 145x70x9.6mm, 157g

Photographic whizz?

HTC has swapped UltraPixels for standard (but lots more) megapixels on its main camera. Smart move?

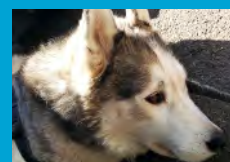


■ The big snapper

Going from a 4MP camera to a 20.7MP one gets you loads more detail, but a slightly more pedestrian low-light performance. Plus the processing isn't perfect: some post-shoot tweaks go a long way.

■ The selfie snapper

The front camera is only really good for selfies as it won't focus on far-away objects, but it's possibly the best selfie camera yet. You get decent details and great versatility when the light is low.



■ Easy themey

The smart theme-maker custom-builds your M9's look around any photo, analysing its tones to inform the colour scheme of the rest of the interface. Maximum creativity, minimum effort.

■ The rest of the pack

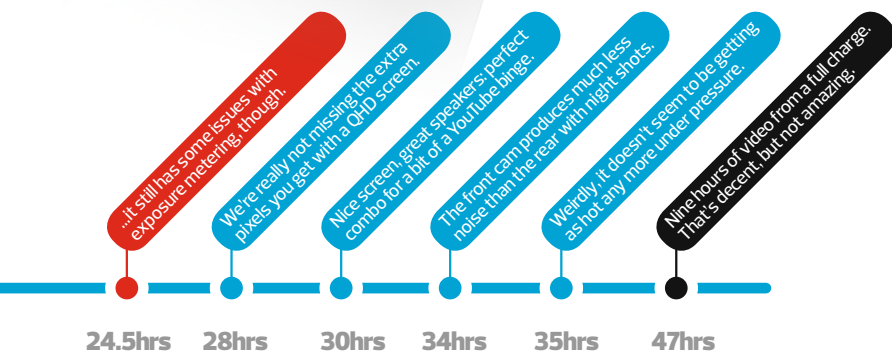
Of course, it's not the only smart-snapper out there: other superphones are sniffing at its heels, and the Panasonic CM1's huge sensor could have it licked. **See all this year's superphones on p70.**



If you're waiting for a phone revolution, the HTC One M9 is not it. It's a thoughtful, considered refinement on what is one of the finest phones there's ever been, and that's enough to make it the early front-runner in the 2015 flagship phone race. Only time will tell how long it stays there. @wwdotandrew

STUFF SAYS ★★★★★

An early contender for 2015 phone of the year, the M9 is a real class act



Trident_redefined.



THE NEW TRIDENT

C60 TRIDENT PRO 600 – Swiss made dive watch with automatic mechanical movement, unidirectional rotating ceramic (ZrO₂) bezel and water resistance to 60 bar/600m. Available in 38mm and 42mm case sizes, five dial/bezel combinations and four strap styles.

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2015

ATTACK OF THE SUPERPHONES

Look skywards and you'll see this squadron of superphones flying in to rescue you from the tyranny of yesterday's slow-witted blandsets. But which one has the right superpower for you? We've visited their secret bunker to find out...



SAMSUNG GALAXY S6 EDGE

It's the best-looking Galaxy S phone yet and comes with the screen equivalent of an infinity pool. But is the S6 Edge just a photogenic gimmick? We cross-examined it at Mobile World Congress 2015

£tbc (due April) / samsung.com/uk



HANDS-ON

Fraser Macdonald
Consulting Editor

Though it's 10g lighter than the Galaxy S5, the Edge feels very solidly put together with a satisfying hand-heft. There's a really refined industrial quality to the speaker grille, the exposed metalwork and the joins where the glass back curves up to meet the chassis. This finish comes at the expense of a removable back panel, which means no swapping out batteries or microSD cards. I don't think I'll miss this, though, and there's a silver lining in the form of storage options up to 128GB, all using fast-access UFS 2.0 chips. The 5.1in Super AMOLED screen is mighty crispy and the new edginess (see right) is a neat addition, if sadly lacking the Note Edge's ability to serve you extra info while the screen's on. The 16MP camera with light-snaffling f1.9 aperture and the speaker, now moved to the bottom of the phone, sound like solid tweakery too. See next month's mag to find out if all this adds up to an HTC One M9-toppler.



THE SCREEN BONE'S CONNECTED TO THE METAL BONE

Two instant hits for the S6 Edge: its metal chassis and two Note Edge-style curved screen edges. These give it a futuristic profile and some serious weightiness in the hand.

EARLY VERDICT

As a response to the criticisms levelled at the S5 for not feeling premium enough, the S6 Edge is an out-of-the-park smasher.



INCOMING
SUPERPHONES...SUPERPOWER
INFINITY
SCREEN

The Galaxy-bothering kryptonite about to enter Earth's atmosphere...

OnePlus Two

Due: Autumn 2015

OnePlus has confirmed that our favourite budget superphone will be getting a sequel this year. Expect a slicker take on stock Android (OnePlus has dropped CyanogenMod in favour of its own OxygenOS), a new premium metal build and (we hope) a similarly tempting price tag.

Apple iPhone 6S

Due: September 2015

It's an 'S' year in iPhone-land, which means we'll almost certainly be getting more powerful 6 and 6 Plus doppelgängers. Rumours suggest a boost to 2GB RAM for smoother multitasking and a pre-installed Apple SIM for signing up to carriers directly from within Settings.

Google Nexus 8

Due: Late 2015

Google traditionally picks one lucky company to be the foster parent of its Nexus phones. Last time it was Motorola, but rumours from China suggest that the Nexus 6's successor (which can't adopt the already taken 'Nexus 7' name) will be made by Huawei. If it takes design cues from Huawei's Watch, we won't complain.

TWICE
ROUND
THE QUAD

When the phone's screen is off, your choice of widgets are displayed on one side for quick hits of glanceable information

SERIOUS
CHARGES

The wireless charging is WPC and PMA-compatible, so you'll be able to soak up power in Starbucks, McDonald's and others



And its Clark Kent sibling...

**SAMSUNG
GALAXY S6**

£tbc (due April) / samsung.com/uk

The S6's traditional, non-curved screen makes it the Edge's unassuming alter ego. But it isn't one to simply blend in with the rest of the smartphone crowd either. Gone are the plastics and faux-leather

finishes of Samsungs past. Instead, you get a lovely glass-covered metal chassis that feels solid and balanced in the hand. Again, there's no removable battery or SD card slot, but storage options up to 128GB (and that new premium design) will more than compensate for most Galaxy fans. The 5.1in QHD screen is the same tough Super AMOLED number as the Edge version. Just without the, erm, edges.

Come to your sensors
How the best camphones
size up for light-grabbing
sensor size...

Panasonic CM1
1.0 inch

Nokia PureView 808
0.83in

Nokia Lumia 1020
0.66 inch

HTC One M9
0.43 inch

Lenovo Vibe Shot
0.38 inch

Apple
iPhone 6
0.33 inch

AND ITS
CAMPHONE
NEMESIS...

SUPERPOWER
ONE-INCH
MEGASENSOR

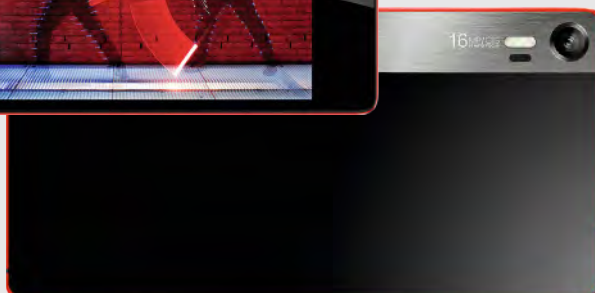
**Panasonic Lumix
DMC-CM1**

£800 / panasonic.com

No, Panasonic, we won't be calling the CM1 a 'communication camera', but we will hail its photographic powers. Though chunkier than most Android phones at a pocket-stretching 21mm thick at the lens, it has a 20.1MP sensor that's the largest (physically) ever to grace a smartphone, plus a host of 'proper camera' controls. These include a control ring around the lens, a two-stage shutter button and 4.7in 1080p screen. Optical image stabilisation and a Xenon flash (rather than the CM1's LED flash) would have been nice for that price, mind.

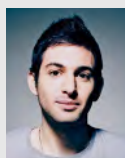


SUPERPOWER
CAMERA
MORPHING



LENOVO VIBE SHOT

US\$349 / lenovo.com



HANDS-ON
Esat Dedeade
Staff Writer

From the front, the Vibe Shot is an Android Lollipop smartphone, but flip it round and you'll find a classic mid-noughties compact camera. It feels blocky in the hand, but it's light and easy to keep steady. Hit the shutter button on the side and it'll open the camera app; press the button again

and the 16MP-packing Vibe Shot takes a crisp, vibrant snap almost instantly.

Next to the shutter button is a switch for moving between Pro and Smart modes. Smart mode recognises the type of scene you're shooting and adjusts the settings. But most interesting is the Pro mode, which gives you manual settings such as ISO, white balance and aperture. Extending the Lenovo's talents are the bundled tricolour flash for replicating your preferred light temperature, and a mini ring light attachment for casting a flattering glow on selfies.

THE PHYSICAL SPECIMENS



SUPERPOWER
GIGANT-O-
SCREEN

Huawei MediaPad X2

£tbc / huawei.eu

The X2 isn't a smartphone — it's a 7in tablet that also can make calls. Aside from making other people's phones look like Tamagotchis, its aim is to please power users with its octa-core 2.0GHz processor, LTE connectivity and 5000mAh battery — good for a 15-hour session on Stuff.tv.



SUPERPOWER
FOXY
FANCINESS

LG FxO

¥50,000 (Japan only) / mozilla.org

How we tease you by showing a picture of one of the best-looking smartphones around, then revealing that it's only available in Japan. But the FxO's existence is a sign that Mozilla's web-based Firefox OS is expanding beyond budget phones. So, keep an eye on it — it might just be the next Android.



SUPERPOWER
INVINCIBILITY*
(TO WATER)

Sony Xperia M4 Aqua

€279 / sonymobile.com

If you like to swim three miles from shore before realising you're out of gas, this is the mid-range Android phone for you. It's waterproof to 1.5m for 30 minutes and lasts two days in a single charge. If no-one answers your call, there's always the 13MP camera for filming your sequel to *Open Water*.

SAYGUS V2

\$600 (due May 2015) / saygus.com



HANDS-ON

Tom Parsons
Reviews Editor

The waterproof V2 (they say it's actually V², pronounced 'V squared', though nobody will call it that) ticks pretty much every box on the nerd-phone checklist. It has two microSDXC slots, a 21MP camera, 3GB RAM and an impressive 1080p, 5in screen. But the most interesting feature is Wireless HD: this lets you transmit what

you're doing on the V2 to a TV, with virtually no lag. We played jetski racing game *Riptide* and it felt as responsive as a wired connection. When you factor in the increasing graphics quality of mobile games, this could be handy.

The downside is you need a receiver to plug into one of your TV's HDMI inputs. These cost upwards of £100, but Saygus is working on its own receiver, which will cost a far more reasonable £35. Still, those SDXC slots could in theory give this baby *four terabytes* of storage... when someone invents 2TB microSD cards. Which could take a while.



**SUPERPOWER
TELLY
TELEPATHY**

USE IT WITH...

**SanDisk Ultra
microSDXC UHS-I
Premium Edition**

\$400 / sandisk.com

These cards will give you 400GB to play with (plus the 64GB built in).



THE MYSTERY PHONES

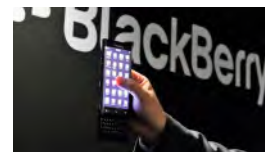
If these phones have a superpower, it's pre-launch inscrutability...



Blackphone 2

blackphone.ch

Remember privacy? The Blackphone wants to bring it back. This is a hardware upgrade to the original – it encrypts texts, calls and virtual meetings from its custom PrivatOS. Only demo versions have been seen, but Captain Privacy will emerge later this year.



BlackBerry Slide

uk.blackberry.com

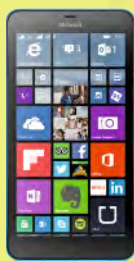
It's like BlackBerry knew we wouldn't fall for its touchscreen Leap phone. At the launch, it teased another handset: the Slide, with a full touchscreen, traditional QWERTY keyboard and... that's all we know so far. It's a promising alternative to the square Passport.



Yezz Project Ara

sayyezz.com

Google's modular phone concept moved nearer to reality with the unveiling of Yezz's concept Ara modules at MWC 2015. These included a powerful LED module for boosting video-shooting skills, though there was still no indication of when Ara will go on sale.



SUPERPOWER BARGAIN- OSITY

**HANDS-ON
WITH THE...
MICROSOFT
LUMIA
640 XL**

£140 / microsoft.com

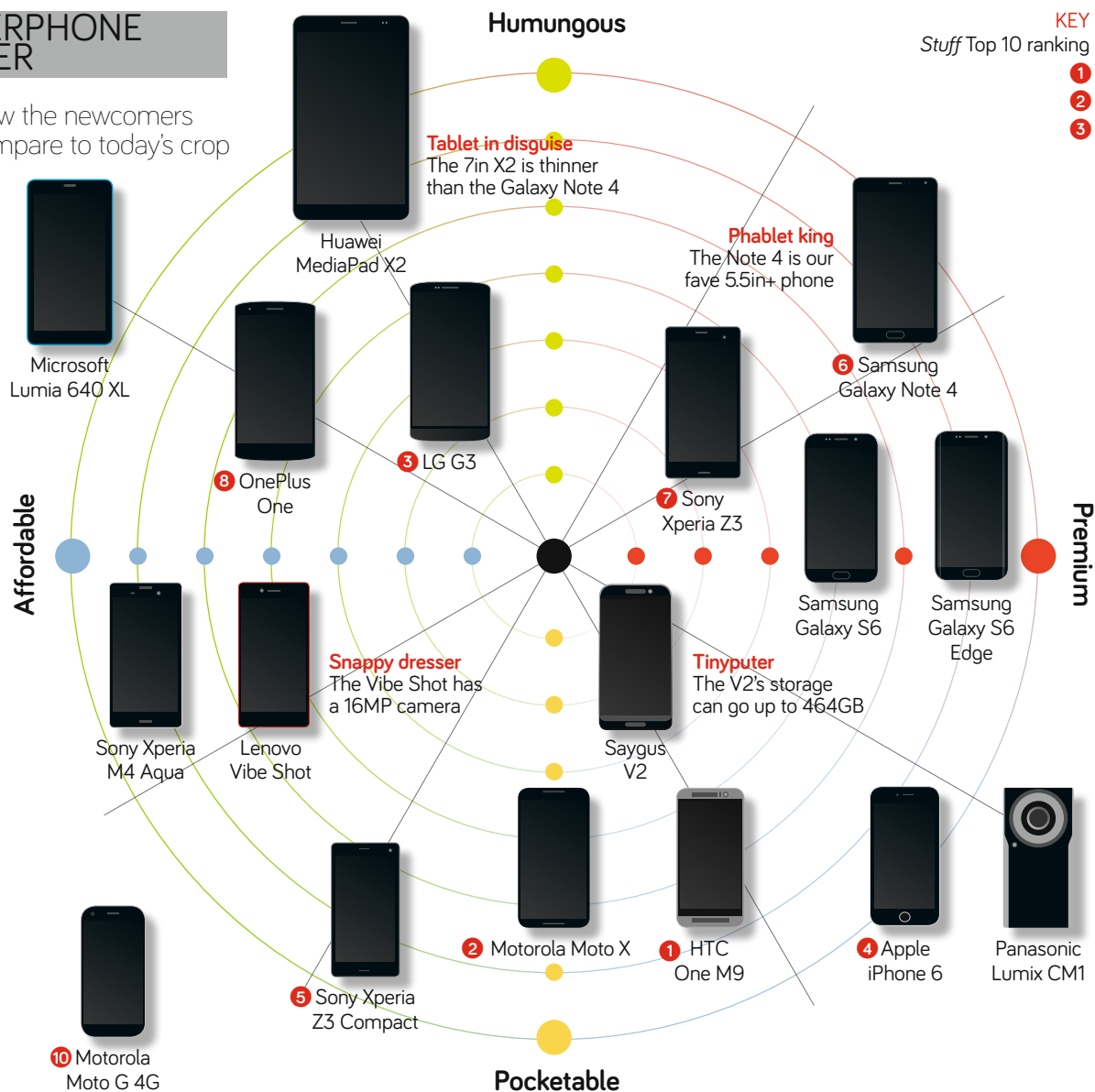
The aim of this 5.7in Lumia is pretty simple: to give you a largely compromise-free Windows Phone

experience at about a third of the cost of a flagship smartphone. Its 720p screen isn't a high-end display, but its colours are pretty good, and the phone is nice and smooth to operate. The specs are one generation behind the pack but it's enough to keep Windows 8.1 ticking along nicely, and there'll be a boost to Windows 10 later this year.

Andrew Williams

SUPERPHONE FINDER

How the newcomers compare to today's crop



WHICH SUPERPHONE ARE WE MOST LOOKING FORWARD TO?



Saygus V2

Tom Parsons, Reviews Editor

I'm always looking for an unusual outside bet, and the Saygus V2 is just that. It looks plain, but that's part of the appeal to me; and while it won't set the benchmarks alight, Wireless HD means I can stream games and movies to my TV lag-free. And just think how many of them you'd get on 464GB of storage...



Samsung Galaxy S6 Edge

Mark Wilson, Features Editor

I've been an iPhone user since the 3GS days, but the Edge could see me finally jump ship to HMS Android. It's not just the Edge's lovely screen (well, yes, it's mainly that) – it's also the premium feel. I might have to become a weekend TaskRabbit to afford one, though.



Apple iPhone 6S

Tom Wiggins, Deputy Editor

With the Apple Watch reaching real wrists this month, I'm excited to see how it'll influence the next iPhone. Hopefully it'll take the sapphire screen and wireless charging and add to what is, IMHO (as they say on the internet), the best all-round smartphone package available.

Cue the music...



Q Acoustics.

Media 4 The real hi-fi soundbar



Sonic wizardry for music and movies

With its 100w amplifier and built-in subwoofer, the Media 4 plays music, TV sound and movies with astonishing quality - no extra boxes required!

Simply plug and play - plus wirelessly connect smartphones, tablets and laptops using aptX Bluetooth.

Wall mounts with built-in bracket or shelf-mount with supplied anti-vibration feet.

www.Qacoustics.co.uk



What Hi-Fi? Awards 2014,
'Product of the Year'



Trusted Reviews 'Recommended',
October 2014



AV Forums 'Highly Recommended',
July 2014



Home Cinema Choice 'Best Buy',
July 2014

Stream of the crop

Watch what you want, whenever and wherever – *Stuff* weighs up the top three TV streaming subscription services



What to watch
Game Of Thrones
Season 5 is an involved and bloody power struggle, and it's being aired right now (13 April onwards).

Now TV from £7/month / nowtv.com

What's on?

Now TV is Sky's baby, and it takes a very different approach from other streaming services. Content is divided into three sections: movies, entertainment and sports. You pay for passes to get into each area.

The library is small but fresh, mostly taken from Sky channels. The latest films appear here way before they do on the other two services and TV shows are a good mix of old and new: you get the

complete 24, but also the latest series of *Mad Men* and *Game Of Thrones*.

Older content sits there permanently, while freshly aired shows tend to have 30-day countdowns. You can also watch Sky channels live.

Any good?

Device support is decent. Smart TVs are limited to LG, but you'll find the service on consoles, Roku boxes, Google Chromecast, plus portable Android and iOS devices.

Finding Now TV content is a bit clumsy – the search function tends to bring up individual episodes rather than titles. Most of the time you'll search by genre or by channel, which can be a chore.

Movies and entertainment passes are monthly, and cost £10 and £7 respectively. Sport passes are currently £7 daily or £11 weekly; these are more for catching specific events. Whether you pick one or all three, it still costs less than subscribing to Sky proper.



What to watch it on

GOOGLE CHROMECAST

Flick through Now TV on your phone and shoot it to your TV with this little dongle. Laziness has never been this much fun.

STUFF SAYS A bit rough around the edges, but it's the cheapest way to get Sky ★★★★★



What to watch
Bosch
A compelling
Los Angeles detective
show based on Michael
Connelly's gripping
crime novels.



What to watch
House Of Cards
Kevin Spacey is an evil
politician, and we're not
talking about fiddling
expenses either.

Amazon Prime Instant Video

from £6/month / amazon.co.uk/prime

What's on?

Amazon does everything, so of course it wants a slice of Netflix's pie, but its approach is confusing: Amazon Prime Instant Video is an unlimited streaming service; Amazon Prime is that, plus free speedy parcel delivery. That's distinct from Amazon Instant Video, which is pay-per-view, with more recent content. And then there's Lovefilm, which sends you discs – remember those? – in the post.

The Prime library is actually larger than Netflix's, but it's quality that counts, and Amazon falls behind on many of the top shows. It has begun to produce its own TV – not to the same calibre as Netflix Originals, but with *Bosch* and *Black Sails*, it's getting there.

Any good?

Prime and non-Prime content sit side by side, which can be annoying. A little banner denotes the difference, but we've often clicked on something only to be told it's not part of the package.

You'll find Prime on games consoles, as well as some TVs from LG, Sony, Samsung and Panasonic. You also get iOS support, but Android users must ask very nicely (and download Amazon Shopping first). It'll work on Kindle Fire devices too, of course.

Amazon Prime (including parcel delivery) costs £79 for the year but you can avoid this and go Prime video only, if you don't use Amazon for anything else and want to save yourself £7 a year.

What to watch it on

AMAZON FIRE TV

A zippy box that treats Amazon members like VIPs. The voice search function is surprisingly accurate.



STUFF SAYS ★★★★★

There's a ton of great stuff to watch, but it needs to be more discoverable

Netflix

from £6/month / netflix.com

What's on?

Subscription video streaming is a very small pond, and Netflix is a shark – no rival can boast the same level of ubiquity and popularity. The offering is simple: every member has unlimited access to everything they see. Which makes binge-viewing delightfully (and dangerously) easy to do.

The library is massive. The films aren't the newest, but the TV side more than makes up for it. Exclusives like *Breaking Bad* and *Arrested Development* are a huge draw, but these days Netflix even produces its own shows. *House Of Cards* is now into its third season, while a deal with Marvel means we'll get the new *Daredevil* too.

Any good?

Device compatibility is astonishing. Almost every TV, Blu-ray player, tablet and phone we've seen in the last year has been Netflix-friendly. Even Windows Phone.

It's easy to use too. You get rows of tiles, divided into various themes, or suggestions based on your viewing habits. Set a separate account for your kids, or Netflix will feed you suggestions for *My Little Pony*.

Pricing is simple. Basic (£6/month) lets you use Netflix on one screen at a time, in standard definition. Standard (£7) gives you 1080p HD, on two screens. Premium (£9) takes that up to four screens, along with 4K content – not that much exists.

What to watch it on

A 4K TV

The choice is basically *House Of Cards* or *Breaking Bad*, but if you've got a fancy new telly, bathe in the pixels.



STUFF SAYS ★★★★★

The best selection, the best original content and a taste of the 4K future

**TEST
WINNER**

Bebop is rock steady

With drones set to take off in a big way this year, is Parrot's affordable flyer just the thing to sweep you into the world of high-altitude frolics?

from £430 / parrot.com

DJI's 4K-filming Inspire 1 might be the poster drone for our new airborne overlords, but Parrot's Bebop is the one you'll realistically see taking off from a garden near you. It's a supercharged version of 2010's AR.Drone, with built-in GPS and a better camera, capable of shooting 14MP stills and Full HD video – and at £430 it's within the reach of most wallets.

To fly it you need an Android or iOS device and Parrot's FreeFlight 3 app (free), which talks to the drone's own Wi-Fi connection. Simply hit 'Take Off' and it'll rise to 2m off the ground and hover, waiting for further instructions.

So is this a serious UAV, a filmmaker's dream or an expensive radio-controlled toy? Let's fire up the rotors and find out...



1

1 Control freq

The Parrot Bebop's altitude and rotation are controlled by a virtual thumbstick, but Joypad mode adds a second one to control the drone's lateral movement. Ace and Normal modes use tilt control, which takes some getting used to but allows you to keep your eyes on the Bebop rather than always glancing down at the touchscreen.

2 Exposure exposed

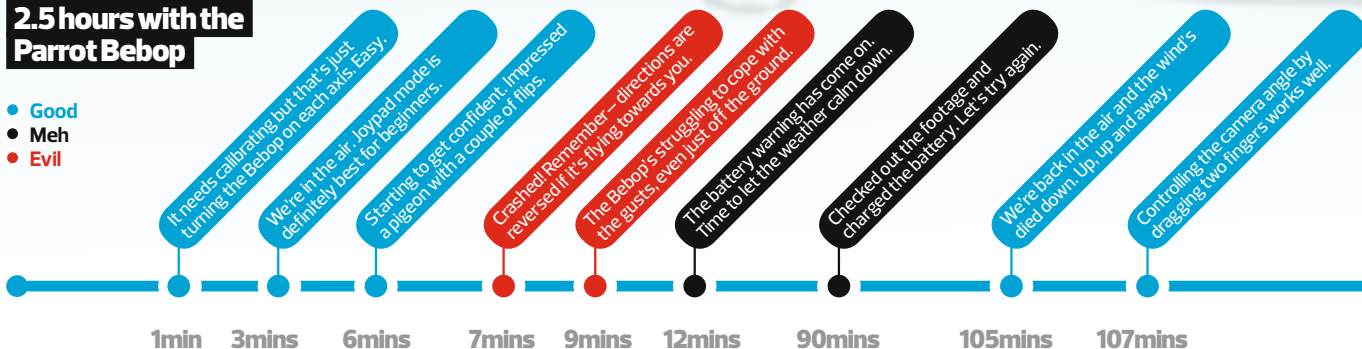
The camera struggles a bit with exposure on videos, particularly when changing altitude. This is particularly noticeable if it's a bit overcast, but in clear blue skies the footage looks great, plus it's steady as a rock. Blow it up for a big screen and edges start to fuzz a bit, but when viewed on an iPad you don't notice.

3 Rangefinder

You can set a height limit on the Bebop that goes all the way up to 150m. That's actually higher than you're legally allowed to fly it, and it's also way beyond the Wi-Fi range. At just over 60m up our iPad Mini lost signal with the Bebop, resulting in a tricky moment that ended with it landing in a thorny hedge. Ouch.

2.5 hours with the Parrot Bebop

- Good
- Meh
- Evil



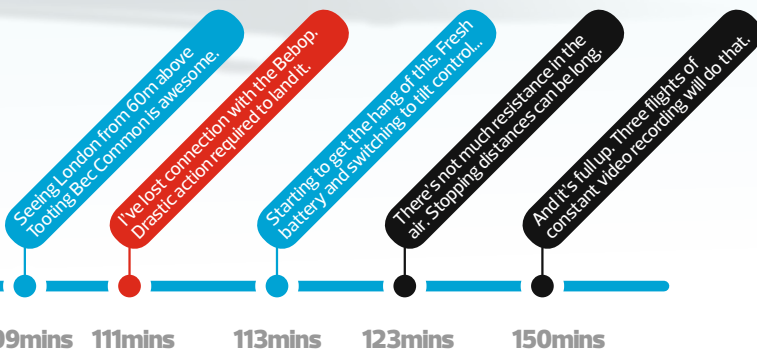


4 Homeward bound

With GPS now built-in, the Bebop should theoretically be able to find its way back to where it took off at the push of a virtual button, but when we hit 'Return to Home' it flew worryingly close to a tree, so we took over and landed it ourselves. How's that collision detection coming along, drone makers?

5 Batteries included

The Bebop comes with two batteries. Each one should give you 11 minutes of flying time but we found it could surpass that with some careful piloting (or a bit of rest while stuck in a bush). Plan your flights before take-off and, with a pit stop to change batteries, you could probably eke out close to half an hour in the air.



Tech specs

Camera 14MP

Video 1920x1080, 30fps

Storage 8GB

Top speed 13m/s

Dimensions 33x38x3.6cm (with hull)

Weight 410g (with battery and hull)

Captain bird's-eye

A totally new perspective: check out the Bebop's sky-high video footage of your neighbourhood



■ Going live

The app's default view shows a live feed from the Bebop's camera, but it often doesn't refresh fast enough to enable drone's-eye-view piloting. Those races will have to wait.



■ Mappy daze

If you pre-load a section of map, you can switch to a top-down satellite view that shows exactly where your Bebop is in flight... although, considering the range, it's too zoomed out to be of any real use.



■ Showing off

The AR.Drone's ability to do flips and rolls with just a double tap of the screen lives on, although the camera won't record them. However, the app will record telemetry data for all your flights.



■ Transfer deadline

You can transfer what you've shot directly to your phone or tablet over Wi-Fi. It takes ages and uses up crucial battery life, but then you can check your footage or pics without a laptop.



Just flying the Bebop is enormous fun, but it does a lot more to justify its price tag. Its photography and video skills are plenty good enough for amateur aerial auteurs, making this by far the easiest and most affordable way in to the world of sky-high surveillance. Just be aware of its limitations before you fly. @wiggowiggo

STUFF SAYS ★★★★★

A user-friendly RC toy that reveals hidden depths the more you fly and film with it

LG G Flex 2

BEAUTY AND POWER

Curves are in. The LG G Flex2 matches striking form with serious function. Flat phones are so last year.

Everyone's phone these days is, simply, a portable rectangle.

A black mirror with slight differences in size and width.

That's why the LG G Flex2 stands out. It makes a statement; it makes you smile – all because of the curve.

This is a beautiful handset, and it isn't a basic block of black. The curve fits your hand comfortably for an ultra-tactile experience while looking stunning. It gets noticed.

The G Flex2 is redefining the curve: it is making it useful. Not only is it a satisfying and solid to hold, but the curves also make for improved audio – and it shapes snugly and safe to a pocket. The screen makes watching video a more immersive, almost cinematic experience, giving the image more depth and texture while sharpening viewing angles.

Performance matches looks. Drawing on smartphone success (see the G2 and G3), the G Flex2 has LG's unique back-button, so there's nothing on its edges to break its shape. Double-tap the screen to turn it on, clench your fist at the camera to take a selfie, multi-task at pace with the 64-bit Octa-Core chip – all via a robust and lightly skinned Android OS.

The LG G Flex2 stands out and has a curve that makes you smile. Find it at Carphone Warehouse and Vodafone.





FOUR MORE LG G FLEX2
ESSENTIAL FEATURES



Camera class

Photographer quality images thanks to LG's OIS+ tech to steady shots and laser auto focus. Touch-and-shoot makes for simple snapping.



Power and glory

Multitask at blazing speeds with the 64-bit Snapdragon Octa-Core processor and the latest and greatest Android OS.



5.5in Full HD display

P-OLED, Full HD screen and that unique curve delivers an immersive, lifelike viewing experience, as well as minimising glare and reflection.



Quick charging

Spend less time charging and more time doing with accelerated charging that refuels 50 per cent of the battery in around 40 minutes.

WHERE DO YOU WANT TO GO TO PLAY?

Words Andrew Hayward

From mountains to megacities and small islands to giant planets, there are few things more satisfying than building your own world. *Stuff* meets the creators of next year's most exciting virtual realms...



NO MAN'S SKY

PS4, PC



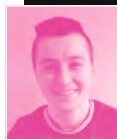
Grant Duncan
Art Director, Hello Games

"No Man's Sky is the game that we wanted to play when we were kids. We wanted to make a universe that feels different: something full of hope and wonder that's always fresh, and that you want to go out and explore. We also wanted to make it believable — not realistic, because it needs to inspire wonder — but it can be very easy to slip into crazy, silly stuff, like blobby tentacle beasts. We want you to feel that each planet you explore is a real place."



THE WITCHER III: WILD HUNT

PC, PS4, Xbox One



Monika Zawistowska
Senior Concept Artist, CD Projekt RED

"Since the Skellige archipelago is partially inspired by the Viking/Nordic architecture and mythos, my most prominent inspiration was Viking longships. The longship you see is built from parts of longboats that crashed near island shores. The bow was inspired by Byzantine dromons and the Greek bireme. All in all, the whole thing is intended to project a feeling of being a warship with a bit of an adventurous past."

THE LEGEND OF ZELDA

Wii U



Eiji Aonuma
Producer, Nintendo

"It's quite a vast world, isn't it? You can even reach those mountains in the distance, if you walk far enough. We couldn't create such a wide world like this in the past."

You can enter any area from any direction – so the puzzle-solving in this game begins the moment the player starts to think about where they want to go, how they will get there, and what they will do when they arrive."



TOM CLANCY'S THE DIVISION

Xbox One, PS4, PC

**Fredrik Rundqvist**
Executive Producer, Ubisoft Massive

"There's a virus released upon New York City on Black Friday, and it has quickly devastated the city. It's quarantined, all the basic services are shut down, people are dying and desperate and you have factions rising — either to take advantage of the situation or simply to survive. They're fighting for the scraps that are left in the city, and you're an agent of the Division, asked to go in and fix it, to take it back."





UNCHARTED 4: A THIEF'S END PS4



Emilia Schatz
Lead Game Designer, Naughty Dog

"When Drake arrives on the island, the distant mountain is the first thing he sees. We use it as a design device, providing a goal to draw in the player, but also as they explore and their path twists and turns, they have a fixed point to orient themselves. So we needed it to be iconic, but also to describe the character of the island: both menacing and enticing at the same time. We want players to see a world full of possibility and intrigue that they long to be part of."

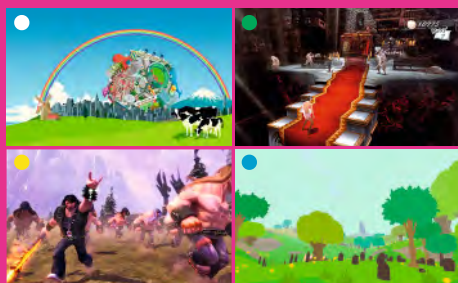
THE WITNESS

PS4, PC, iOS



Orsi Spanyol
Artist/Designer, Thekla Inc

"*The Witness* is set on an abandoned island full of strange puzzles. It's a quiet, somewhat surreal collection of different environments. The colourful, impressionistic style of the art was developed to create a pleasant, meditative space the player can really enjoy exploring. While the assets use minimal detail, they stay true to nature to create believable spaces. It is a place full of challenges and secrets, waiting to be discovered."



WHERE ON EARTH AM I? STRANGEST GAME WORLDS

● **Katamari Damacy (2004)**

The off-kilter locales drive the action in this oddball gem, in which you roll up everything — from lipstick to buildings — into a giant ball and send it into space.

● **Catherine (2011)**

A philandering half-naked man has nightmares of climbing endless block ladders as the world crumbles beneath his feet. Terrifying.

● **Brutal Legend (2009)**

A whimsical and weird fantasy world inspired by heavy metal music and album covers, with a guitar-swinging hero voiced by Jack Black? Yeah, that'll make the cut.

● **Proteus (2013)**

The pixelated 3D natural world of this exploration game holds secrets: with the right conditions, you can change the season. But without any guidance, can you figure out how?

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With
Geolocation
feature

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Demo the Hive app on iOS and Android or get the whole story at hivehome.com/sync or **0800 975 8099**

Resins to be cheerful

It's one of the first consumer SLA 3D printers, but will its mix of flashy lasers and magic goop impress?

€3000 / formlabs.com

■ SLA printing uses a laser to harden UV-sensitive resin. It's a process that until now has been restricted to much larger commercial machines, and means you'll have to fill a resin tank before printing. This is made from the same light-blocking orange acrylic as the Form 1+'s casing, with a clear base for the laser to shine through.

■ Watching it print is mesmerising: a point of light flits underneath the resin around the base of the object being built. The process yields consistent results, but it's not flawless. Once printed, you prise your item free with a scraper and plunge it into isopropyl alcohol to get rid of excess resin before removing the support material.

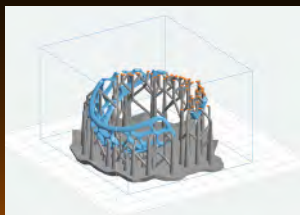
■ The Form 1+ has a single button next to the bright, clear text-based LED display. It starts printing, pauses it or even cancels it depending on the context.

■ The prints display great detail and very even surface texture, apart from the occasional bubble. Medium-quality, 0.05mm-layer models are actually quite difficult to tell apart from the finer 0.025mm-layer models, which take around twice as long.

■ The Formlabs Form 1+ certainly is capable of fantastic results, but you'll pay for the privilege. On top of the €3000 price, resin is €135 per litre and each tank (enough for two litres of resin) costs €55.

Tech specs

Layer thickness 25–200 microns (0.025–0.2mm) **Build volume** 125×125×165mm **Interface** USB
Minimum feature size 0.012in
Dimensions 30×28×45cm, 8kg



Hollow promise

The included PreForm software is beginner-friendly, but won't hollow out models for you or create the drain holes to let out excess resin. It's time to finally learn how to use that 3D-modelling program...



Fail me once...

Make the supports too thin and your model will fall off mid-build. Forget to position a flat surface at an angle and it will end up lumpy. Happily, a few tweaks mean you can avoid these issues next time.

STUFF SAYS A pricey machine that produces stunning, consistent results ★★★★★

Clinical trial and error

Jools Whitehorn



This is a world away from my previous 3D-printing experiences, with a consistent laboratory-style performance. It is at the same time less messy and more messy than plastic-filament-squirting FDM printers, with none of the straggling plastic, but more awkward liquids and rubber gloves. Thanks to its low frustration factor, it's the one I'd choose, but the high price and ongoing running costs make it difficult to justify.

Flexual healing

You might think that, after the limited success of the first G Flex, LG would be mad to make another bendy phone. But that's just what it's done...

E530 / lg.com/uk

Like its predecessor, the LG G Flex 2 has a very light, banana-like bend. But it's smaller and much more comfortable to hold. The self-healing back has been enhanced, too – heavy scratches will show, but it's more resistant to pocket detritus.

1080p on a smaller screen means the G Flex 2 is way sharper than the G Flex, but there's no escaping that it's still short of LG's own QHD-toting G3, which is now available for almost half the price. Contrast is typically OLED-brilliant, though.

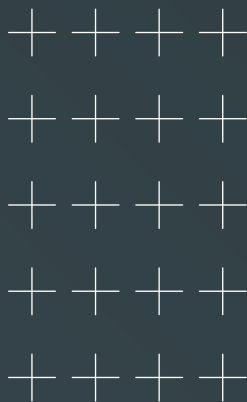
The Snapdragon 810 processor is a generation ahead of the Snapdragon 805 of 2015's best phones, and the awesome benchmark scores bear that out. Talk of horrible overheating seems to have been premature – it gets warm, but not worryingly so.

Some of the most notable software additions in the G Flex 2 are gestures. You can do things such as silence phone calls, pause video and unlock the phone using touchscreen gestures or flicking the phone in various directions.

The unusual design hasn't affected the 3000mAh battery: you should easily get a day's use unless you hammer games (which, with the curved screen in landscape, are pretty great).

Techspecs

Screen 5.5in P-OLED with 1920x1080 (403ppi) **Processor** Octa-core Snapdragon 810 @ 2GHz
Cameras 13MP rear, 2.1MP front
OS Android 5.0 Lollipop
Battery 3000mAh **RAM** 2GB
Storage 16GB/32GB (plus microSD)
Dimensions 149x75x9.4mm, 152g



Life through a lens

The camera uses the same (now outdated) 13MP sensor as the LG G3. It is capable of capturing some great photos, but it's not what we're expecting from the best 2015 phone cameras.



Side features

The G Flex 2 earns a few media brownie points. The speaker is warmer and more full-bodied than most, with a tone that's similar to the Motorola Moto X. Plus you have the microSD slot to play with.

STUFF SAYS The new bendyblower is a proper phone with genuine appeal ★★★★★

The curve makes better sense second time around

Andrew Williams



With the first top-end 64-bit processor we've seen, a much-improved screen and a curve that, while not essential, feels great, the LG G Flex 2 has shrugged off its gimmicky cloak and hit the big time. If you're after the ultimate smartphone, this isn't it. But if you want one that looks unique, feels great in the hand and has power and battery life to spare, there really is no better option than the G Flex 2.

Unleash the gamer within you



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5 OF THE BEST

Hybrid laptops

Flip, swivel, unclip... there's plenty of choice in the tablet/laptop mongrel market these days, so we tried out the top contenders

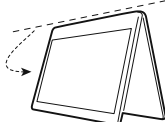
FORMS



1 LAPTOP



2 TABLET



3 STAND

The tweed-style stand-case uses magnets that hook into certain areas on the back to prop up the screen, but you can't see 'em

A small screen isn't for everyone, but when it helps the X2 offer up to 11 hours' battery life, we can't complain too much



HP Pavilion X2 £280 / hp.com

What's the story?

Want a tablet for 10% work and 90% messing around? The HP X2 is a bargain tablet that comes with a smart accessory that's part case, part keyboard.

Magnets hook the keyboard onto the tablet part, and the keyboard uses proper keys and a solid-ish plastic base which is unlike most of the tablet keyboards we've seen. This

is the X2's killer feature, as you can pay £100 or more just for a tablet keyboard on its own.

Any good?

The HP X2 gets a few of the tablet basics right too. It has an IPS screen, meaning you can view the screen from just about any angle and it won't start looking odd. Decent front-loaded speakers earn it a few points, as

does the combo of a microHDMI port and full-size USB.

But there are bits we'd like to improve – parts that mean it's not a great tablet in its own right. Low screen resolution leaves everything looking pretty blocky, and it's on the heavy side at 920g – and that's without the keyboard. You won't be editing many videos on the X2 either, as it has just an Intel Atom

CPU: fine for the basics, but not a speed demon.

Tech

Screen 10.1in 1280x800 IPS LCD
Processor Intel Atom 1.33GHz
Connections USB, microHDMI, microSD, microUSB
Dimensions 436x260x76mm, 920g (with keyboard)
RAM 2GB **Storage** 32GB **Battery life** 11hrs

STUFF SAYS A budget hybrid that lasts 11 hours – just not enough pixels ★★★★★

FORMS



At just 13mm thick this laptop is crazy-skinny: that's almost tablet-like, despite the proper keyboard

Just like any other top-end Ultrabook, there's a backlit keyboard that makes writing emails in the dark much less typo-tastic



Lenovo Yoga 3 Pro £1000 / lenovo.com/uk

What's the story?

If there's a laptop that might tempt you away from hybrid laptops where the keyboard bit actually comes off, it's the Yoga 3 Pro. Few laptops impress in person like this one.

Firstly, it's incredibly slim and light, made of glass and magnesium – a metal renowned for its light weight. Then there's the hinge, which looks like it's

made from high-end watch parts rather than laptop-bound ones.

Any good?

There is a little bit of flex to the screen part, but it smacks of design choice rather than compromise. How so thin? This is one of the first Intel Core M laptops. It's a chipset so efficient that it doesn't even need a fan. It'll stay silent 24/7.

For a stylish portable road-warrior, it's perfect – especially as the 13.3in 3200x1800 screen looks great among laptops (even if the Microsoft Surface Pro 3's images are better still). However, don't go thinking the Lenovo will make games look super-sharp. Okay, it will, but it'll also make them super-slow – the Intel Core M doesn't have the grunt of a Core i5 or i7. It's less powerful

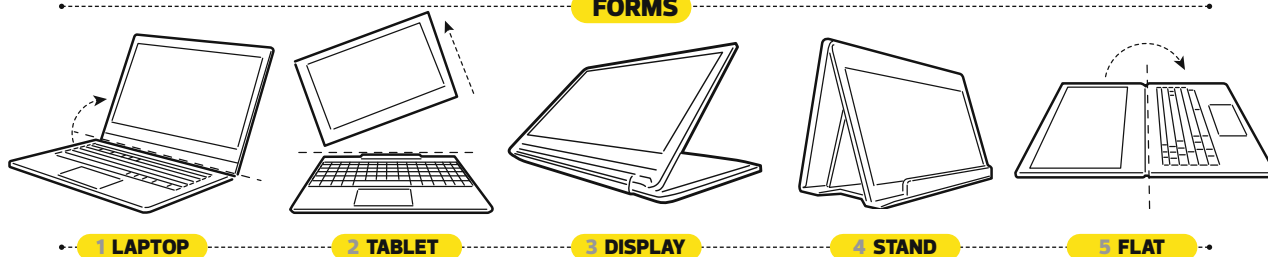
than the Yoga 2 Pro, in fact. This is about portability over power.

Tech

Screen 13.3in 3200x1800 IPS LCD **Processor** Intel Core M-70 **Connections** 2xUSB, microSD, microHDMI **Dimensions** 330x228x12.8mm, 1.2kg **Storage** 256/512GB **RAM** 8GB **Battery life** 7.5hrs

STUFF SAYS The Lenovo doesn't have superpowers, but it has a super design ★★★★★

FORMS



Flip the keyboard around and the keys are disabled, so you don't end up writing garbled poems while watching Netflix



A metal keyboard surround and brushed metal lid give the Flip a touch of class, although the underside is plastic

Asus Transformer Book Flip from £500 / asus.com/uk

What's the story?

Convertible and hybrid laptops often look a bit out of the ordinary, but even close up you'd think the Asus Transformer Book Flip was a totally standard laptop. There's no funny-looking hinge and even the two-tone finish is innocuous.

There's a freak hidden inside, though. The Flip's metal lid, as you'd imagine, flips all the away

around to form a tablet so chunky you'll think it's 2011. Just about every element of the Flip's design, though, suggests that the hinge should only be used in emergencies.

Any good?

It's not even Ultrabook-thin, let alone tablet-thin, and it's heavy too at 1.8kg. Of course there's only so much you can expect

of a laptop with a 13.3in screen, not to mention one with a 'proper' Intel Core i5/i7 CPU – there's plenty of power on tap.

The more you use it, the more you realise this is a pretty normal laptop that just happens to have a funky hinge. The screen isn't really geared up for the Flip's flexibility either – resolution and viewing angles are both pretty dismal, meaning the

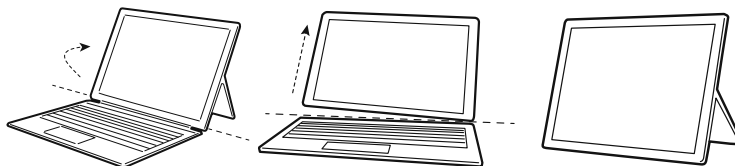
screen all but disappears when turned the wrong way.

Tech

Screen 15.6in 1366x768 LCD
Processor Intel Core i3/i5/i7
Connections 3xUSB, microSD, microHDMI
Dimensions 270x380x261mm, 1.8kg (with keyboard)
Storage 500GB/1TB
RAM 4/6/8GB **Battery life** 5hrs

STUFF SAYS It's a sound laptop, but the Asus isn't much cop as a tablet ★★★★★

FORMS



1 LAPTOP

2 TABLET

3 STAND

A ventilation grille sits around 50% of the tablet, helping to disperse the heat from the pretty powerful Intel Core CPU

TEST
WINNER

The magnesium stand feels tough as nails despite being seriously thin, and lets the screen sit at almost any angle – smart design

Microsoft Surface Pro 3 from £640 / microsoft.com/surface

What's the story?

Microsoft isn't messing about with the Surface Pro 3. It wants to replace your tablet and your laptop, not live alongside them peacefully. And it's quite a feat of engineering.

The magnesium body looks and feels fantastic, and the clever fan and ventilation system means it can fit seriously powerful processors into a body

just 9mm thick, with options going up to a dual-core Intel Core i7.

Any good?

There's a kickstand too, turning it into a laptop when you hook up the magnetised keyboard cover. Given the cover is just a few millimetres thick, its typing experience is amazing, and it even has a backlight. The downside: the cover costs £110.

Use the Surface Pro 3 as a tablet and a terrific USP appears. It has a pressure-sensitive pen that transforms the thing into a totally convincing digital notebook. The display is terrific; the better-than-2K resolution makes it pin-sharp and colours are vivid yet natural-looking.

Factor in nine hours of battery life and it seems that Microsoft has aced the formula on its

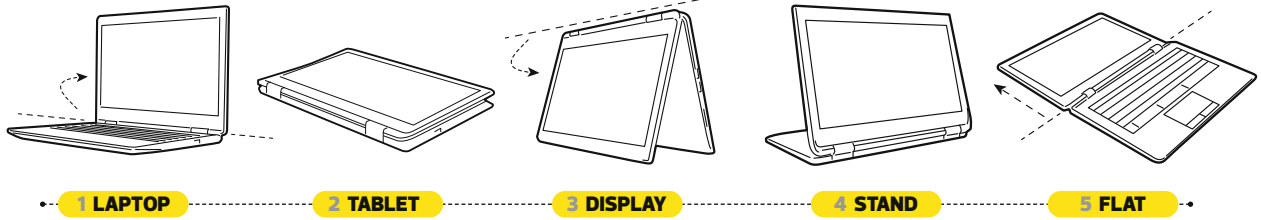
third go. Just make sure you're ready for a two-part machine.

Tech

Screen 12in 2160x1440 IPS LCD
Processor Intel Core i3/i5/i7
Connections USB, microSD, mini DisplayPort
Dimensions 292.1x201.4x9.1mm, 1.1kg (with keyboard)
Storage 64/512GB
RAM 4/8GB
Battery life 9hrs

STUFF SAYS A genius design makes this the most dynamic hybrid around ★★★★★

FORMS



By embracing a laptop design style rather than a tablet one, the Radius 11 fits in a 500GB hard drive: great for storing movies and music



The double-jointed hinge doesn't look fancy but it's sturdy and holds position in pretty much any angle

Toshiba Satellite Radius 11 £350 / toshiba.co.uk

What's the story?

You don't need to spend the Earth to get a funky-looking convertible laptop. Alongside the HP X2, one of the cheapest of the lot is the Toshiba Radius 11 at £350, with a petite frame and 11.6in screen. But it's certainly no toy. Despite the plastic build it feels nice and sturdy, and the hinge curves smoothly all the way around.

The HDMI port means you can easily hook it up to a monitor and keyboard/mouse combo to turn it into the brain of a fully fledged desktop setup. It's really only when you look at it as a laptop-tablet hybrid that it starts to stutter a bit.

Any good?

The Toshiba's display doesn't offer particularly good colour,

contrast or viewing angles. So while you can prop it up on a train table to watch a film, the picture's going to look a bit naff. This is a typical cheap laptop screen: even budget tablets would look down on it.

It also has stiff mouse buttons, a super-shallow keyboard and a fairly low-powered Intel Pentium CPU: it'll start wheezing if you start up Photoshop or certain

games. However, for light duties on a budget, it ain't bad at all.

Tech

Screen 11.6in 1366x768 LCD
Processor Intel Celeron N2840
Connections 2xUSB, microSD, microHDMI
Dimensions 289x199x21.9mm, 1.3kg (with keyboard)
Storage 500GB
RAM 4GB **Battery life** 5.5hrs

STUFF SAYS The Toshiba's solid build is let down by a slightly iffy screen ★★☆☆☆



PC, PS4, PS3, Xbox One,
Xbox 360 / residentevil.net

Resident Evil: Revelations 2

An episodic sequel to an odd spin-off doesn't sound like the game to get the great survival horror franchise back on track... or does it? Tristan Donovan gets toolled up for fresh mayhem

Bioterrorists? Check. Environments built from multi-storey car-park concrete and rusted metal? Check. Pus turned up to 11? Check. This is definitely a *Resident Evil* game.

A sequel to the Nintendo 3DS spin-off, *Revelations 2* retreads familiar ground but adds some spice by going all HBO and dicing up its campaign into four episodes of two to three hours each.

Claire Redfield and her pal Moira Burton have been kidnapped and taken to a mysterious island to

become lab rats in some diabolical experiment. But thankfully Moira's dad Barry is coming to the rescue with help from a strange young girl called Natalia.

The campaign flips between Claire and Moira's story and that of Barry and Natalia as they unravel the island's grisly secrets while dispatching wave upon wave of deeply unpleasant monsters.

Despite its dramatic aspirations, *Revelations 2* continues *Resident Evil*'s long tradition of hokey storytelling. The characters

have all the emotion of Patrick Bateman and the game makes no allowances for anyone not versed in the series' labyrinthine backstory. So it's no *The Last Of Us*, but the mid-paced shooting action is gratifying enough to overcome the thin story and so-so visuals. Claire and Barry head the killing but Moira and Natalia inject variety by solving puzzles, finishing off fallen monsters and, in Natalia's case, detecting live ones.

Play alone and you get to swap between the characters, which

works OK, but get someone else in for some couch co-op and Moira and Natalia's abilities bring a new tactical dimension to the slaughter. After the campaign there's even more fun to be had in the addictive Raid mode, which throws you into cramped arenas where you fight for survival against the clock.

It's fun, heart-pumping stuff, backed up with plenty of levelling-up and load-out options to keep you coming back for more.

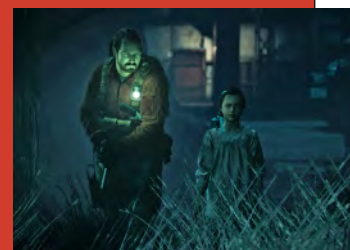
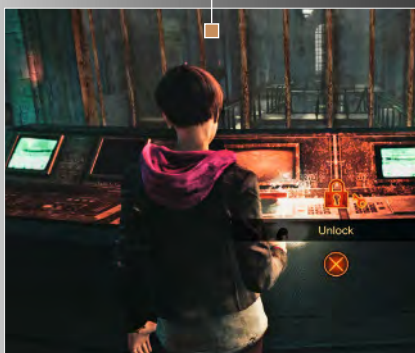
Tristan Donovan

STUFF SAYS Typically stinky storytelling, but the action largely makes up for that ★★★★★



Some puzzle-solving breaks up the numerous gory action sequences

Only one character in a pair has a gun at any given time



That's flippin' teamwork

Resident Evil: Revelations 2 is good fun solo, but its campaign is best experienced in couch co-op. In single-player mode you spend most of your time as Claire or Barry, but get a friend to join in and the previously muted abilities of Moira and Natalia become way more integral.

Both Moira and Natalia can polish off downed enemies, pick the locks of the chests sprinkled around the game and spot hidden items that the others can't see.

Moira can dazzle monsters with her flashlight, allowing for some ruthlessly efficient killing: when she blinds a beast, Claire then roundhouse-kicks it to the floor and Moira dispatches it with a crowbar to the skull.

Meanwhile Natalia's ability to detect monsters, which appear to her as yellow clouds, allows her to guide Barry through the dangers ahead – an ability that's even more useful when the game starts throwing invisible monsters at you.

The differences in the characters' abilities and the way those abilities complement each other turns the co-op mode from just a chance to play with a mate into a feature that gives the game another layer of depth.

Media hoard

Get ready to weep behind your tinted Aviators, leap from your chair for some anthemic indie pop, then sit back down again for the ultimate alt-rock memoir

WATCH

Good Kill_cinema

Three decades and three full-scale wars separate *Top Gun* from *Good Kill*, and it shows. Where Tom Cruise duelled with an easily identifiable enemy in a magnificent F-14 skyhorse, Ethan Hawke sits in a container in Las Vegas, remotely piloting a drone 7000 miles away, firing missiles at people a CIA agent on the phone tells him are bad. Where Maverick spent his spare time playing volleyball and riding his motorbike near some horses, Major Thomas Egan goes home and drinks vodka in the bathroom to forget the things he's done.

It's a reflection of the way the US now wages its wars: technology has removed pilots from conflict zones, and for a nation that defines itself by its military might, the idea

that its knights of the sky have become risk-free joystick-pushers is emasculating and shameful. But for those in the lands beneath the drones, one missile is as bad as another, and the idea that the person pulling the trigger might find it depressing is surely the ultimate in first-world problems.

Good Kill does a great job of reminding the world that there are unseen spooks with powerful new toys that make it far too easy to rain destruction on people far away. The moral case it makes unravels, however, when Egan decides it's his job to pick who are the Bad Guys; in doing so, he becomes as bad as anyone else.

Will Dunn

STUFF SAYS ★★★★★



Interstellar_Blu-ray

Christopher Nolan's first non-superhero film since his *Batman* trilogy owes slightly too much to *2001* and *Contact*; but with an intelligent, twisting storyline (albeit featuring black holes conveniently sucking in odd plot points), he's pushed megabudget blockbusters to a place they've struggled to reach for years.

Tom Wiggins

STUFF SAYS ★★★★★



Cobain: Montage Of Heck_cinema

Made using previously unseen family movie footage, this documentary often feels like watching *At Home With The Cobains*, but it goes beyond the 'depressed junkie with a shotgun' story to which his life has been reduced. Don't come looking for 'the answer', and you'll leave with a better understanding of the man.

Tom Wiggins

STUFF SAYS ★★★★★

LISTEN



Kintsugi

_Death Cab For Cutie

If you've ever heard a Death Cab For Cutie song before, very little on their eighth studio album will surprise you. But when a band is this good at what they do, fans rarely want to be caught out.

So while synths billow out from behind plucked electric guitar on *Black Sun*, *The Ghosts of Beverly Drive* is fired along by '80s drum fills and *Good Help (Is So Hard To Find)* sounds like Foals when they've

all hit 40 and stopped growing ironic 'taches, this is unmistakably Death Cab, if a little safe.

Little Wanderer is one of the few duds, with references to instant messaging and network overload that could age it as badly as Jay Z's talk of pagers. Try not to stand near any couples if you see them play it live.

Tom Wiggins

STUFF SAYS ★★★★★



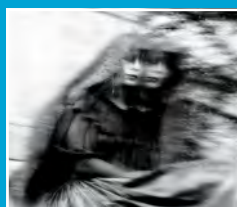
+ -

_Mew

Danish prog-popstrels Mew will always merit a listen because of the *And The Glass Handed Kites* album, but that extraordinary record is 14 years old now, and with every subsequent release it sounds more like a fluke. There are a few magical moments on + -, but also a lot of lazy lushness. You don't fix a bland cake just by tipping in more sugar.

Richard Purvis

STUFF SAYS ★★★☆☆



Desolation Sounds

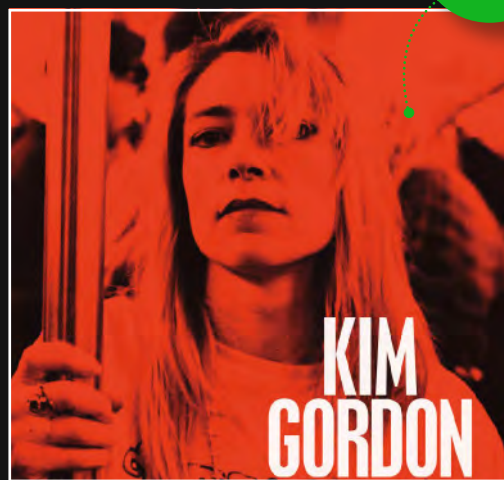
_Gallows

Good news, punks! They're still furious and loud, but now slightly goth. The first four tracks are a flurry of angular guitars and shouty choruses, and singles *Chains* and *Bonfire Season* sound way bigger among the chaos. It goes on in angry, brutal and fast fashion to the end, the only breather being the love song *Cease To Exist*.

Ross Presly

STUFF SAYS ★★★★★

READ



Girl In A Band

_Kim Gordon

Oooh, does she talk about the split with Thurston? Yes, she goes right in on it, and with some bitterness. But while hell hath no sarcasm like a wife and bandmate scorned (and she's not above catty swipes at soft targets such as Courtney Love either), this memoir from the revered Sonic Youth bassist is no tawdry score-settler.

Gorge on the gossip bits by all means, but after

three decades at the heart of the band that turned indie rock into a high art project, Gordon has earned her status as the arch priestess of 'alt' culture. She has a lot to say about art, music, fashion, city life, families... and, with unexpected candour, the complex and uncertain woman behind that corpse-cool persona.

Richard Purvis

STUFF SAYS ★★★★★



Windhaven

_George R.R. Martin and Lisa Tuttle

Long before *A Song Of Ice And Fire*, George R.R. Martin co-wrote this novel, now reissued, in which communication between scattered islands is only possible through 'flyers', the descendants of astronauts. Peasant girl Maris sets out to win her own wings... but plot gaps make it a disjointed read.

Emily May

STUFF SAYS ★★★☆☆



Future Crimes

_Marc Goodman

As a former cop, FBI futurist and senior advisor to Interpol, Goodman is a serious authority on the hacks of the future, and this book should be required reading for people who deal with sensitive information. But it's a dry, procedural read, filled with lists and meticulously retold examples. Not exactly a page-turner.

Will Dunn

STUFF SAYS ★★★☆☆

TV terabrain

Acer's tinyputer has a big appetite for movies and music – is this the return of the media centre PC?

£280 / acer.co.uk

■ At barely six inches high, the rounded design of the Revo One make it look more like a hedgehog's Smeg than a computer. It draws attention to itself in just the right way, so it'll happily sit on a shelf or mantle without upsetting your granny.

■ While it ships with a 2TB hard drive, there's space within its titchy housing for another one, bringing the total potential capacity to a massive 4TB. It's comparable to a NAS drive, but with the added versatility of running Windows.

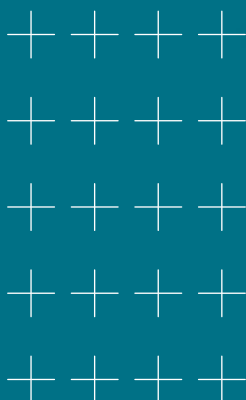
■ With such huge capacity and dual DisplayPort outputs, this is a neat media centre in addition to being a decent NAS drive. Alas, there's no 4K here, but Intel Core models with Ultra-HD support are due to hit the shelves in May.

■ Only the most lo-fi of games are playable with this processor, but with Steam installed you can stream from a higher-end PC to your telly. The power draw is really low too, so you can leave it on all night downloading your games and TV shows without waking up to a bankruptcy-inducing electricity bill.

■ The Revo One also comes with one of the best features of a NAS drive – being able to roll your own cloud. Acer's apps do a great job, and being able to access all your files and multimedia while on the move is still as awesome as ever.

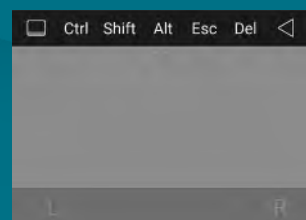
Tech specs

OS Windows 8.1 64-bit
Processor Intel Celeron 2957U dual-core 1.40 GHz
RAM 4GB
Storage 2TB
Dimensions 155x107x107mm



Feeling remote

Acer's remote control consists of a neat trackpad with a button, and all the media controls you'll ever need. Flip it over and you'll find a ZX-tastic rubber keyboard: perfect for entering web addresses.



Phone it in

With Acer Revo Suite you can ditch the remote altogether and use your Android phone. This app turns its screen into a touchpad, remote control and keyboard. Begone, clutter!

STUFF SAYS An ideal NAS substitute, but with the benefits of a media centre ★★★★★

The centre of your media world
Henry Winchester



Forget shoving your media PC behind your telly – you'll want Acer's Revo One to take pride of place on your mantelpiece. And behind those good looks is a beautifully simple idea: that a NAS drive and a media centre can be one and the same. The only issue is the weakness of that processor – I'd be very tempted to wait for the Intel Core version so that gaming and 4K movies could be added to the ingredients list.



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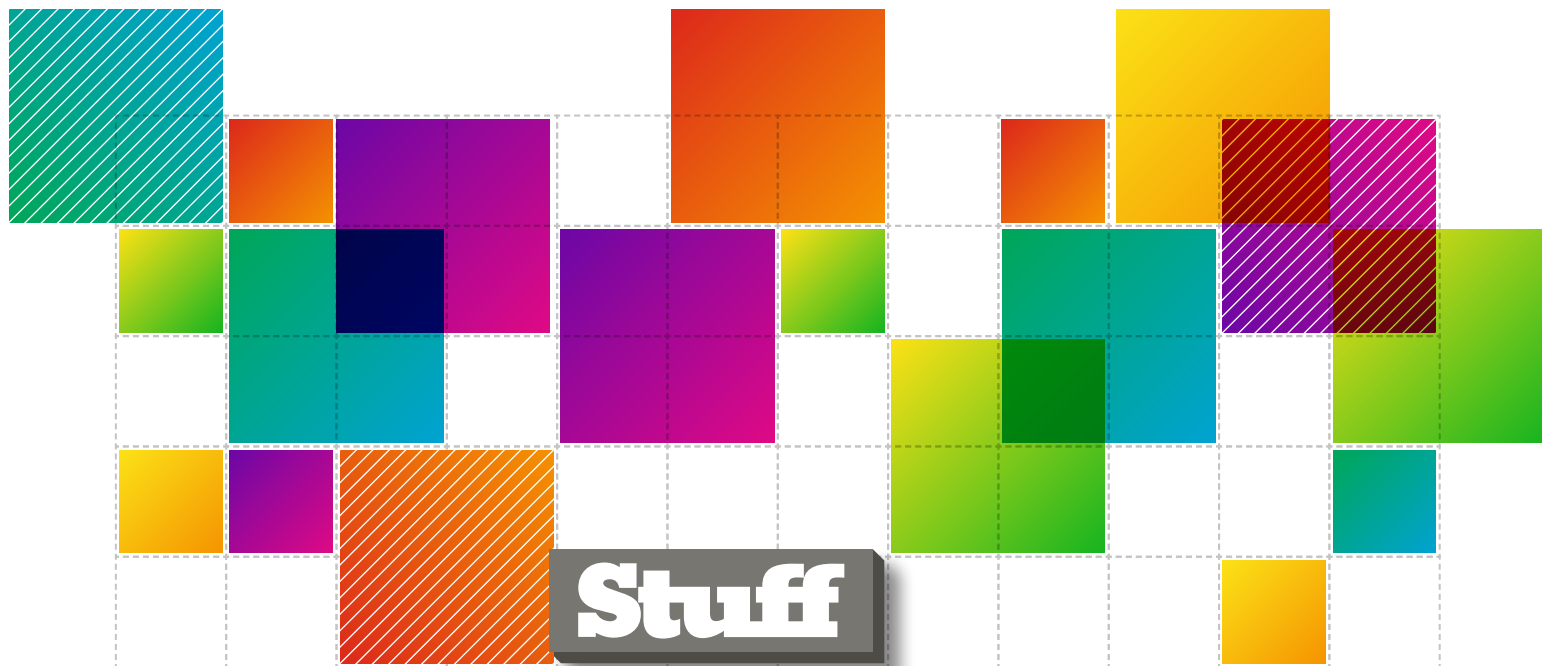
Stuff

WHAT HI-FI?
SOUND AND VISION

T3

i The concise
quality newspaper

HOW IT
WORKS



PROJECTS

MAKE. DO. UPGRADE.

p104 BETA YOURSELF: ACTION PHOTOGRAPHY Capture all the gnarliness in pin-sharp glory	p106 PLAYLIST: COMEDY From <i>Python</i> to <i>Parks</i>, the biggest laughs you can get on demand	p108 SUPER GEEK: DRUM MACHINES Because we're all slaves to the rhythm	p110 REAWESOMISE... ANDROID WEAR Bought yourself a Google-powered wristputer? Here's what to do with it

BETA
YOUR-
SELF

ACTION PHOTOGRAPHY

Tired of taking blurry sports photos? Legendary biking photographer Seb Rogers reveals how to pan, flash and freeze-frame your way to action-snapping glory

THE BASICS

■ Speed is king.

Action photography means capturing a moving object – so selecting the right shutter speed, the length of time the shutter is open, is key. Use Shutter Priority mode to control this.

■ Swing like a golfer.

If the subject is moving, you – and the camera – should be moving too. Move from the hips with your feet slightly apart, following your subject smoothly in the viewfinder.

■ Support the lens.

Cradle the lens in the palm



of your left hand with your elbow tight to your body. This supports the weight of camera and lens, leaving your right hand free.

■ Squeeze, don't press.

When you're ready to take the shot, squeeze the shutter button gently – don't stab at it. Jabbing on the shutter button causes unnecessary movement and can lead to camera shake.

■ Anticipate the moment.

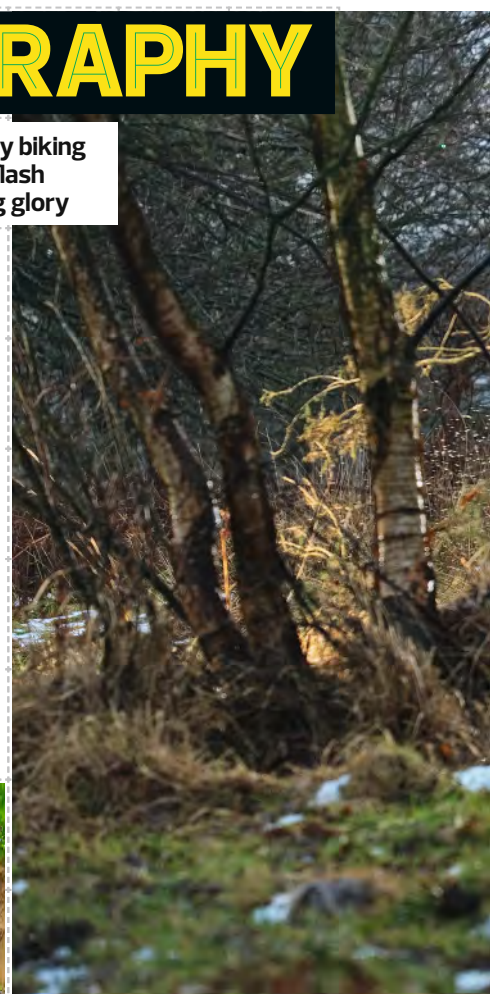
If you're using a DSLR, you're blind at the moment of exposure. So plan ahead and take the shot a fraction of a second early. If you see it, you've missed it.

■ Use a hood.

Lenses are at their best when stray light is kept at bay. A hood helps with this and also provides some protection from dust, mud and rain in the thick of the action.

■ Leave the tripod behind.

Most pro sports photographers don't use a tripod. If you're using a heavy lens a monopod might take the weight off your arms, but moving subjects need a mobile camera and photographer.



NEXT STEPS

■ Go wide, go long.

Action photography works best when you go for impact. Depending on the subject, you can either choose a long lens to get you closer to the action for a tight crop, or go wide angle and get closer to the sporting action yourself.

■ Flash freeze frame.

Flash works with a really short burst of light – 1/1000sec or less. That can make it useful for freezing the action when a fast shutter speed isn't possible, but only if you can get the flash close to the action.



LEVEL UP WITH...



THE BOOK IN THE MOMENT

£30 / amazon.co.uk

Tom Jenkins is one of the most experienced pro sports photographers around, having spent the past two decades travelling the world to shoot events for his clients. Combining an eye for creative composition with bulletproof technique, the images in his book should provide inspiration for any budding sports photographer.



THE WEBSITE DAVE BLACK

daveblackphotography.com

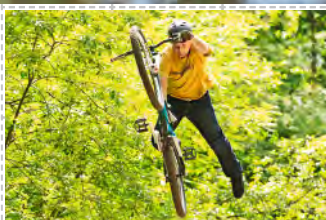
Many pro photographers keep their techniques a closely guarded secret, but Dave Black's website is packed full of useful hints and tips. He's an expert on remote flash photography — among many other things — and his eye for detail and impeccable timing mean you'll never be short of ideas for improving your sports photography.



THE WORKSHOP SPORTS PHOTOGRAPHY SCHOOL

sportsphotographyschool.co.uk

Sports photographer Mark Pain runs occasional courses for wannabe action snappers. Aimed at getting you in close to the action — right where the pros normally are — these are a chance for photographers with some experience to hone their skills under pro guidance.



SETTINGS

■ Fast or slow?

Slow shutter speeds work well for smoothly moving subjects. Most of the time, though, you'll want a fast speed — 1/500sec or above — to keep it sharp.

■ Autofocus... or not.

For action happening at a fixed point, you'll get more consistent shots by manually pre-focusing.

■ Lighting matters.

Set your shutter speed first, then use the ISO to control the aperture. Wider apertures will throw the background out of focus, but you'll need to get your subject focused bang-on.

SPECIAL EFFECTS

■ Shooting a sequence.

If you keep your camera still during a burst of shots it's easy to stitch them together in Photoshop for a dramatic result.

■ Panning technique.

For side-on shots, drop the shutter speed really low (start with 1/125sec). Follow the subject smoothly and you'll end up with a creamy background and sharp, high-impact subject.

■ Off-camera flash.

Easily available radio triggers allow you to mount the flash away on a tripod so you can put light exactly where you want it.

EXERCISE

1. Rope in a volunteer to ride a bike past you several times at exactly the same speed.

2. Start with a high shutter speed — say 1/500sec — and practice getting a well-centred shot of bike and rider at the same spot. One shot for each pass — don't use burst mode.

3. Once you've got the composition and timing consistent, drop the shutter speed and see how low you can go while still keeping bike and rider sharp. With practice even speeds as low as 1/15sec can give good results.



PLAYLIST COMEDY

You probably think the only funny things on the internet are frowning cats. And while they are very funny, you can stream a whole river of laughs right to your telly

Sightseers Amazon Prime

After the dark-as-a-disco-in-a-black-hole *Kill List*, the last thing we expected of Ben Wheatley was a caravans 'n' cadavers caper – but that's exactly what this is. Chris and Tina are on a murderous trail across the Lake District and beyond, like *Bonnie and Clyde*, but from Dudley rather than Dallas.



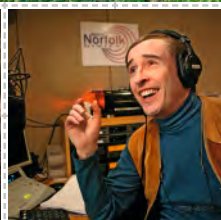
Monty Python's The Meaning Of Life Netflix

It may not be as coherent as *Life Of Brian*, but from the musical classic *Every Sperm Is Sacred* to John Cleese's sex education class, this is easily the Pythons' smuttiest film. Yet it's also laced with sophisticated gags on philosophy and world finance.



Father Ted Amazon Prime

There never will be a funnier comedy character than Father Dougal McGuire – just one glimpse of his face as he puzzles over some trivial matter is enough to set us off. *Father Ted* also boasts the hilariously hideous Father Jack and Mrs Doyle, and every single episode bears repeat viewing.



Alan Partridge's Mid Morning Matters Now TV

Following *I'm Alan Partridge* was never going to be easy, so Team Alan made a dozen one-location shorts instead – and they work brilliantly. There's no plot, just lots and lots of Alan doing what he does worst: filling the airwaves with absolute rubbish.



Brooklyn Nine-Nine Netflix

If you're not already an Andy Samberg fan (shame on you), *Brooklyn Nine-Nine* will make you one. The super-childish detective he plays is always at the centre of things in this comedy cop show, and it's all as silly and immature as television gets... which is fine by us.



The Alternative Comedy Experience Amazon Prime

To many, stand-up on TV means repeats of *Live At The Apollo* – and that's exactly why this show is so important. Filmed in a genuine comedy club in front of a regular audience – no *Strictly* stars here – *The Experience* is curated by Captain Grumbles himself, Stewart Lee.

It's Always Sunny In Philadelphia Netflix

Narcissistic. Sexist. Sociopathic. Elitist. Delusional. All these descriptions fit every single member of staff at Paddy's Bar in Philadelphia. From kidnapping cats to poisoning rivals, and getting drunk at every opportunity, you're unlikely to find a group of people you hate to love more.





NON-TV LOLS

Did all that ROFLing make you accidentally roll headlong into your TV? Oops.



CHORTLE.CO.UK

Comedy's trade publication is a good place to pick up news about tours and new TV shows, and read interviews with acts who don't get booked by panel shows.



TWITTER

Comedians frequently use Twitter to test out material and gauge reactions. For starters, try @jamesAcaster, @adamhess1, @robdelaney and @timkeyperson.



Nathan Barley Amazon Prime

Charlie Brooker and Chris Morris's worryingly prescient 2005 sitcom tells the story of an East London-dwelling 'self-facilitating media node'. It's only now, 10 years later, that most people have begun to appreciate just how brilliant (and accurate) this hipster satire is. Keep it chopped out, yeah?



Team America: World Police Now TV

On paper, this potty-mouthed musical from the makers of *South Park* had far more reason to cause an international incident than *The Interview*. It portrayed North Korea's then-leader Kim Jong Il as a megalomaniacal cockroach, singing *I'm So Ronery...*



Parks And Recreation Amazon Prime

This must-see show has *Modern Family*'s warmth, *Arrested Development*'s absurdity and the mockumentary style of *The Office* and centres on the inconsequential workdays of the least consequential council department of the made-up town of Pawnee, Indiana.



Transparent Amazon Prime

Amazon's been trying to 'do a Netflix' by creating its own blockbusting TV for ages, and now it's got it right. *Transparent* is really bold – the story of a divorcee announcing to his kids that he's going to live as a woman. Sounds heavy, but it's also got a degree of wit and sharpness that's still a TV rarity.



COMEDY BANG BANG: THE PODCAST

Scott Aukerman's weekly podcast still attracts some of the world's best comedians to play (usually insane) improvised characters.

SUPER
GEEK

DRUM MACHINES

DJ and *Mixmag* tech writer Gavin Herlihy explains why electronic beat-boxes old and new are the perfect music-making ally for the rhythmically challenged

Every great beat begins with a brain-ache. From opening my first music program in 2005 to turning on my studio machines last night, all of my tracks have begun with one burning question: How the hell did they make that? Whether you're a bedroom producer or Nile Rodgers, the frustration is always the same. And that's exactly where my love of drum machines first began.

As a rookie producer, before I even knew what a Roland TR-808 was, I spent years flummoxed by my favourite

tracks of the 1980s and '90s, the heyday of the original drum machines. I couldn't quite grasp how humans could blend rhythms so intricately. So superhumanly. Until one day, when I discovered what a drum machine can do.

Peel open the foundations of electronic pop and dance music since the '70s and at their heart you'll find the humble drum machine, beating away and allowing humans to make music they would never have dreamed of making before. And, thanks to companies like Roland and

Elektron, these days drum machines are undergoing a revolution.

But when classic machines such as the TR-808 and the Oberheim DMX first hit the shops, musicians – real ones, the kind who'd spend hours learning scales and chord theory until their fingers were numb – weren't happy. And with good reason. Drum machines placed rhythm in the grasp of the completely rhythmless.

Instead, the challenge of the drum machine lay in knowing how to unlock its secrets. At its

heart is the sequencer, usually a series of eight or 16 buttons, each of which represents a step in a passage of music. Press the first button in every four for your kick drum sound, hit play and wallop – you have a four-to-the-floor beat, the cornerstone of house music.

After that, each layer of percussion begins to form a magical tapestry that no human nor even a machine alone could weave. Your drum machine and you are the perfect union. Man and machine, idiots with timing. Electronics with soul.

JARGON BUSTER

■ SWING

The knob that turns your rhythm from flat and lifeless into the soul of a James Brown snare drum. Each twist sets the notes back a few milliseconds and gives your track that lazy shuffle known as The Funk.

■ AMPLITUDE

By changing the ADSR you can define how long each blast lasts every time the beat hits. Tighten the decay to rein in the groove, or let the release loose to make a dancefloor go crazy.

■ MIDI

Midi is the language that allows your computer to talk to your drum machine through a USB or Midi cable connection to make everything sync in perfect time.

■ VELOCITY

How hard you hit it: a kick at full velocity will shake a club to the core, though it won't be appreciated by a singer-songwriter who requires a more gently struck beat.



ELEKTRON ANALOG RYTM

Samplers are a producer's other great rhythm weapon in the studio. So when Swedish company Elektron created the Rytm, it decided to make its latest drum machine a marriage between the two. The Rytm's 16 drum pads sit in the middle, much like those found on classic MPC samplers. Chuck a sample on a pad and you can play it like an instrument or sequence it using the traditional sequencer strip below. It has eight voices, each with filter or distortion and delay and reverb effects. Changes to these can be recorded on the fly, allowing you to turn simple beats into futuristic rhythms.

£1250 / elektron.se

THE
DRUM-
PUTER

DAVE SMITH INSTRUMENTS TEMPEST

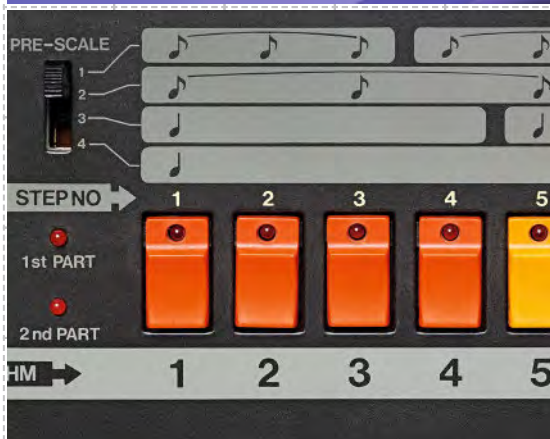
Imagine if Steve Jobs and Bill Gates had collaborated on the perfect computer. Well that's the attraction of the part-analogue, part-digital beat machine called Tempest, the creation of synthesizer legends Dave Smith and Roger Linn, whose collective CVs are littered with classics like the Prophet synth and the Linn Drum. The Tempest's USP is its 16-step drum pads, which function as a sequencer strip and sample pad. Touch-strip controls on the side let you manipulate sounds into otherworldly creations. It also doubles as a six-voice synth.

£1315 / gear4music.com

THE
PRO'S
DREAM



THE OLD
SCHOOL
ICON



ROLAND TR-808

When the most famous drum machine of them all first appeared in 1980, its artificial sounds didn't quite cut it for the studio producers of the time. The 808 found a new home in the pawn shop, where it rapidly devalued and ended up in the hands of the impoverished producers hard at work on the next seismic wave of music genres. Arthur Baker famously used it to produce the beat for Afrika Bambaataa's *Planet Rock*, arguably inventing electro and hip-hop overnight. The 808 is famous for its concrete-wall-defying kick drum, which has plagued the lives of neighbours ever since its arrival.

from £1500 / ebay.co.uk

BUDGET BEATS



KORG VOLCA BEATS

The greatest £100 gift you can buy for music obsessives. The Volca Beats boils the basics of classic drum machines into one analogue unit that sounds great, even if the tiny controls are a bit fiddly. Its sounds are limited but kick, snare, hi and lo toms, open and closed hats, clap, clave, agogo (like a cow bell) and crash are all you really need.

£100 / korg.com



STUDIO DRUMMER

Not interested in synthetic beats? This sample-based plug-in has everything you need to create realistic acoustic drumbeats. That's largely thanks to the 3300 pre-made grooves at its heartbeat, which you can manipulate to make your own with Native Instruments' easy-to-use interface.

£130 / native-instruments.com



TS-808

If you haven't got a spare two grand to buy an 808, test the waters with this free software emulation. It has greater range in functionality than a hardware 808, but sadly it doesn't sound exactly the same. Most people would probably fail a Pepsi/Coke challenge to tell the difference, though, so it's not a bad place to start.

Efree / bit.ly/tactile808

5
WAYS TO...

REAWESOMISE ANDROID WEAR

After the honeymoon period of checking the weather and confirming bus times on your wrist, use these apps and accessories to upgrade your smartwatch

1

Supercharge its menu

Wear Mini Launcher
If we had to choose just one app to install on an Android Wear smartwatch, this would be it. It lets you drag up a list of all installed apps in an instant, while a second swipe brings up quick settings like volume, screen brightness and alerts. It's so hugely useful, Google should have built it in from the get-go. **£free** / play.google.com

2

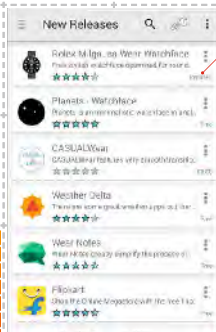
Give it a major facelift

Facer Watch Face
Facer is the ultimate app for creating your own custom faces. It lets you insert your own pictures, text, and different widgets like weather info. You can even change the size of notification cards. If you're not feeling creative, there are also loads of ready-made faces online to download and install in a flash. **£0.79** / play.google.com

3

Treat it with some apps

Android Wear Store
The Google Play store is pretty convoluted, and it can be hard to find apps specifically made for Android Wear, which is where this store comes in. It might not be as pretty, but it's full of compatible apps and is much easier than trawling through the main site. Your smartwatch will be pimped out with fancy apps in no time. bit.ly/store-android-wear



4

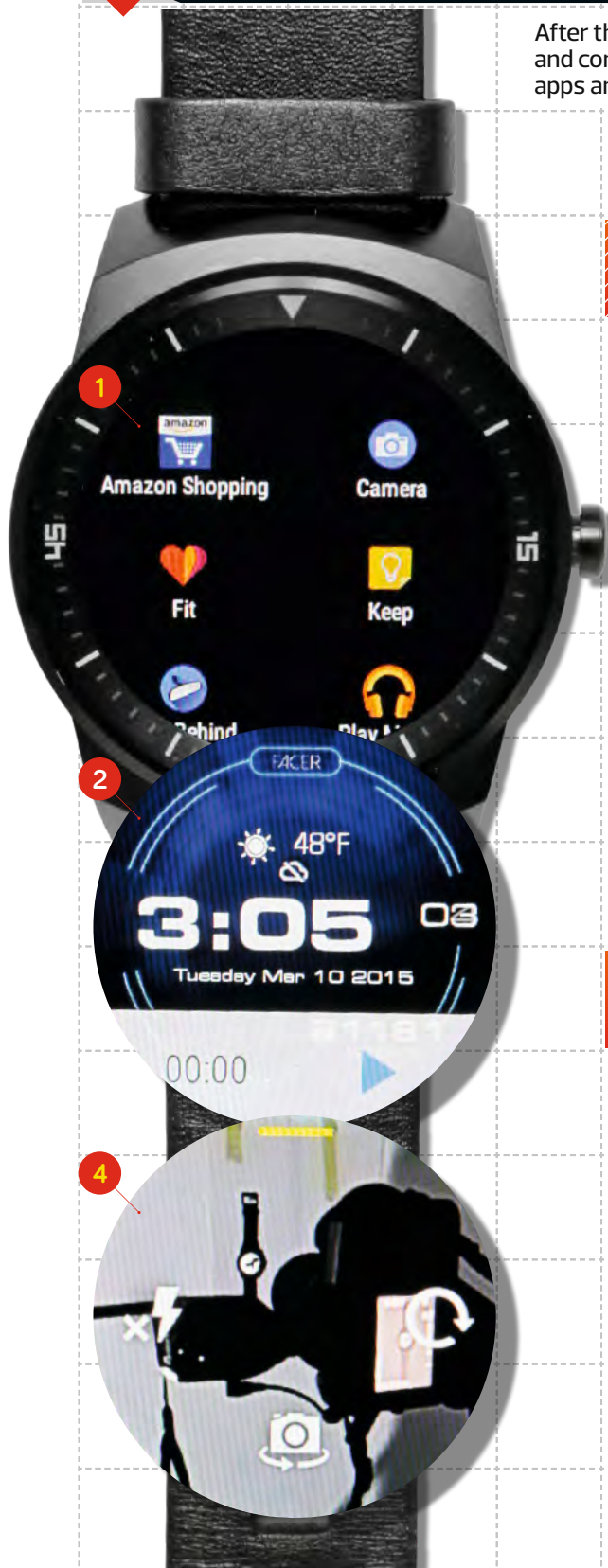
Turn it into a spy camera

LookBehind
Forget the *GoldenEye* watch face – this app will turn your clever timepiece into one Bond would be proud of. Once installed, you can view a live feed of your phone's camera on your watch screen, letting you peer around corners or into hard-to-reach places. The LED flash can even be controlled remotely. Take that, Q. **£0.59** / play.google.com

5

Let there be light

Philips Hue Starter Kit
These Android Wear-compatible smartbulbs can be turned on and off at the tap of your smartwatch's screen, and you can even change the colours and dim them. Time to pretend you've got a disco-obsessed poltergeist in your living room. Or just tell your dinner guests you've got the power of telekinesis. **£180** / amazon.co.uk



GADGET

DOCTOR



ALWAYS ON CALL

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google.com/+stufftv stuff@haymarket.com



MAIL OF THE MONTH

Q WATCH THIS SPACE

I have been toying with the idea of getting a smartwatch, the Moto 360 being my front runner so far. Should I take the plunge, or wait for a new wave of more powerful smartwatches?

Chris Jolley

A Hi Chris, congratulations on your quest to smarten up

your wrist. The Moto 360 is the best-looking Android Wear smartwatch to date, but the LG G Watch R has it beat on battery life and its screen is truly circular. With the Apple Watch set to shake things up, hold out for the second-generation 360, and see how the rest of the Android Wear world reacts to Apple's efforts.

Speak your brains and you could win a 6-month **SPOTIFY PREMIUM SUBSCRIPTION**
This letter wins six months of ad-free, high-quality audio streaming from Spotify, worth £10/month



Q SHHHH!

I mostly game on the Xbox 360, PS3 and Xbox One. I play with the volume turned down low so as not to disturb my wife – the more she sleeps, the more I can play. Can you recommend good compatible headphones (preferably wireless) so I can turn the sound up?

Quiet Gamer

A Increasing gaming time while not disturbing the peace? That's a noble cause if we've ever seen one. First things first – you'll need to fork out for an Xbox One stereo headset adaptor (£20, amazon.co.uk) if you want your new cans to play nice with all of your consoles. As for the headset itself, Creative's

noise-cancelling Sound Blaster EVO ZxR headset (£180, uk.creative.com) ticks all your boxes. It's a little pricey, but it's good for all your consoles, serves up quality sound and will even work with iOS and Android devices if you fancy listening to music too. Happy gaming.

Q GIFT OF THE GIF

Hi Stuff, I love gifs and have an extensive library of them at my disposal. I'm ready to take the next step and make my own, but I have no idea where to start. Help!

Dermot O'Congle

A Welcome to the next step in your path to gif nirvana. While you could faff around with individual frames in Photoshop, the easiest way to start off giffing is with YouTube. Simply find a video you want to use to make a gif, head on over to imgur.com/vidgif and let the internet work its magic. Front page of Reddit, here you come.

Q PLAYING WITH FIRE

Hi Stuff, I've got a regular 'dumb TV' and I've narrowed my choices down to Amazon Fire TV

and a Google Chromecast. The Chromecast is cheaper, but the design of the Fire TV and its bundled remote appeal to me more. I'm not an Amazon Prime member and I'm content with Netflix and Google Play Music for the moment, but just wanted your opinion.

Nathan Woodcroft

A Nathan, the Chromecast makes more sense, especially if you've got Netflix and Google Play Music. The Fire TV's remote is nice, but you can use your smartphone or tablet to control the Chromecast. You would have to jump through a few hoops to sideload Play Music on to the Fire TV too. You can always nab a Fire TV in the future and have the Chromecast in another room. It's only £25, after all!

Q TOUGH TABLET

I have a Samsung Galaxy Tab S 10.5 and I'm after some suggestions for cases to keep it protected. Any ideas for an extra-tough case for when I travel offshore? A bag that'll hold my tablet and all my other

peripherals – headphones, cables, hard drive – would be nice too.

Gary

A Hi Gary. The Otterbox Defender Series case (£70, otterbox.co.uk) is probably what you're looking for. It's big, it's bulky, but it'll save your beloved slate from drops, bumps, bruises and scrapes, thanks to a built-in screen protector and multi-layer shell. In terms of bags, the Ogio Renegade RSS backpack (£117, cyclestore.co.uk) will happily cart around everything from tablets and laptops to cameras and chargers, and it looks rather nice too.

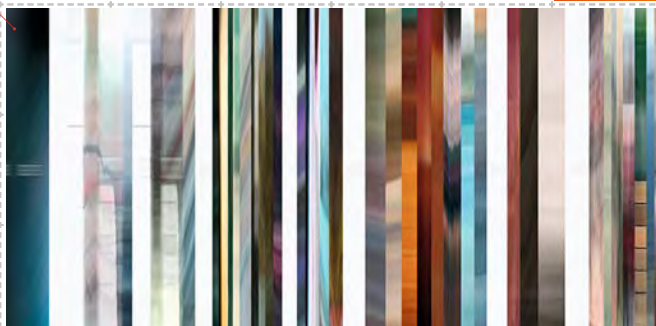




5-MINUTE HACKS

IF NOTHING ELSE, AT LEAST..

1



1 MAKE A MOVIE BARCODE

You like movies. You almost certainly love barcodes. Here's how to meld the two into a subtle piece of modern art for your film-watching den:

1 If you're a PC user, go to arcanesantctum.net/movie-barcode-generator. Download the program, feed it an AVI or WMV file and fiddle with the parameters until you get your ideal film barcode.

2 Mac users are a little less well-served, but if you go to liftgammagain.com and search for 'moviebarcode' you'll find an app that'll do the job.

3 If you can't be bothered to faff about with ripping your favourite DVD, you can buy dozens of pre-made prints from [USS7 at moviebarcode.tumblr.com](http://USS7atmoviebarcode.tumblr.com)

2 GIVE YOUR RASPBERRY PI VOICE CONTROL

If you like the sound of a homebrewed voice controller for the likes of Spotify or XBMC, it's time you met Jasper...

1 Gather your kit: you'll need a Raspberry Pi (model B or higher), a 4GB SD card, a microphone and a speaker.

2 Head to the 'installation' bit of jasperproject.github.io and download the disk image. Now go to your Pi's home directory, clone the Jasper source code and install the Python libraries.

3 Finally, create a user profile, choose a speech-to-text (STT) engine (Jasper supports several), and follow the instructions to install support for services like Spotify that you want to voice-control.

3 MAKE A QUICK ANIMATED VIDEO

Not too handy with After Effects or iMovie? This handy app lets you make short videos with custom graphics, all on your smartphone:

1 Download Nutshell Camera (Efree, iOS). Take three photos – these 'keyframes' will form the annotated backbone of your video.

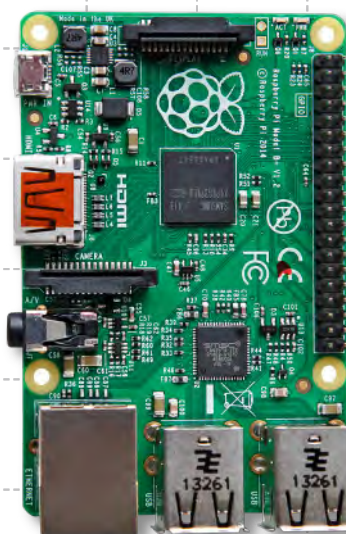
2 After the app has mapped this story into video, you'll get the option of adding text, graphics and pictures.

3 Once your masterpiece is complete, save it to your photo reel (for emailing or posting to YouTube) or fling straight onto social media like Facebook.



3

2



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Stuff

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TEN

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HOT
BUY
NEW

1

**HTC One M9**

This year's HTC One is not a full-on revolution, but it is a careful, considered refinement of one of the very best phones ever made. This is a classy handset that's packed with power and ergonomic pleasure. The switch to megapixels on the main camera results in beautifully detailed daylight shots, and sticking with ultrapixels for the front makes this one of the best phones for late-night selfies. Of course, how long it remains No.1 depends on the likes of LG and Samsung...

STUFF SAYS

The HTC One concept tweaked and refined to smooth metal loveliness for 2015

£580 ★★★★★

2

**Motorola Moto X**

Smart, fast and beautifully crafted: Motorola's software works together seamlessly to make your life that bit easier and the brilliant Moto Maker means a personalised smartphone like never before. This feels like a phone that's built for everyone.

from £360

★★★★★

3

**LG G3**

LG surprises us again. There's barely a single thing wrong with the G3... and so, so much that's right. Upgrades range from sleeker back buttons to the bigger, better 2K screen and laser-assisted camera. And it still lasts 15 hours. How do they do it?

£290

★★★★★

4

**Apple iPhone 6**

With its slim, deeply attractive build and software overhaul, the iPhone 6 is the freshest-feeling iPhone in years. Its larger screen is big enough to be a useful improvement, with gorgeous colours, and this is Apple's best ever battery.

from £540

★★★★★

5

**Sony Xperia Z3 Compact**

This is, without a shadow of a doubt, the best sub-5in Android phone around. The power of a full-size flagship, an excellent camera and an impressive battery life are all crammed into a device that's a pleasure to use no matter the size of your digits. Impressive stuff.

£340

★★★★★

BEST FOR
DAINTY HANDS

6

**Samsung Galaxy Note 4**

Samsung was first at the phablet game, and with the Note 4 it's still the best. The ace camera, Multi Window feature and pressure-sensitive S Pen make proper use of the extra screen real estate. Plus, it has the longest battery life of any 2K phone we've tested.

£540

★★★★★

7

**Sony Xperia Z3**

The refined Xperia Z3 is the phone the Z2 should have been and every bit as good as that sounds. It's sleeker and easier to hold, but with the same stunning screen, camera and hi-res audio. Not to mention the incredible battery life and PS4 Remote Play.

£400

★★★★★

8

**OnePlus One**

Believe the hype. To get one of the best smartphones on the planet, you don't need £500 or £40 a month any more. You just need an invite. In terms of design, performance, screen and battery life you simply can't get better than this for anywhere near the price.

£260

★★★★★

BEST FOR
VALUE FOR
MONEY

9

**Samsung Galaxy S5**

Big, bold and stuffed with tech, the Galaxy S5 is a bona fide superphone that will delight Samsung fans, although it has some very stiff competition. It has a faster processor, a slightly bigger screen and a more solid (if not quite stylish) feel than the S4.

£360

★★★★★

10

**Motorola Moto G**

Google sprinkled some magical Nexus dust over this Motorola blower: the Moto G costs a mere £125 yet has a distinctly non-budget 4.5in 720p screen and quad-core processor. Paltry storage and a poor camera count against it – but then again: £125!

from £125

★★★★★

● Prices quoted are for handset only unless otherwise stated

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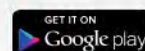


HOT BUY 1	 Apple iPad Air 2 The iPad Air didn't really need to be thinner, but that doesn't mean 6.1mm isn't mighty impressive. This combines with reassuring weight and impeccable build quality to make this the most desirable tab on the planet. While the display is the same Retina resolution as before, clever screen tech brings the pixels closer to the surface, and the whole experience is even faster than before thanks to the new A8X chip. Basically it's the best tablet in the world made even better.	STUFF SAYS Thinner, lighter and mightier: Apple's iron-fisted reign at the top of the tablet charts continues unabated from £400 ★★★★★
2	 Apple iPad Mini 2 With Retina Display The iPad Mini 3 is newer but all it adds is Touch ID. The good news is that the Mini 2 is now down to £280, which is frankly bargain-tastic. That's why the 'old' model stays in our Top 10 – if you're after a mini-tablet of real quality, your choice has just got easier.	from £280 ★★★★★
3	 Samsung Galaxy Tab S 10.5 Samsung has blessed the Galaxy Tab with one of the best tablet screens we've ever laid eyes on, plus an impressive camera and some incredible stamina – but there are performance niggles and Apple's tablet app selection is still far superior.	£320 ★★★★★ BEST FOR MAGAZINES AND MOVIES
4	 Tesco Hudl 2 At this price, the Hudl 2 has far more tech rammed into its 9.85mm-thick body than you'd ever expect. It has a Full HD screen, and its 273ppi display offers the sharpest of images. This is a jaw-dropping bargain, as long as you can put up with Tesco bloat.	£130 ★★★★★
5	 Microsoft Surface Pro 3 At last, Microsoft has delivered on the promise of the tablet-cum-laptop hybrid. It proves there's space in the world for a design that's more productive than an iPad or Galaxy Note, but easier to hump around than a traditional laptop.	from £640 ★★★★★ BEST FOR WORKING ANYWHERE
6	 Asus Transformer Book T100 A stonkingly affordable tabtop with raw power, a neat design and great battery life – perfect for Office on the go, thanks to Intel's new Baytrail CPU. The 1366x768 screen is a good 'un too, with crisp text, great contrast and colours that pop.	£305 ★★★★★
7	 Google Nexus 9 The design isn't as pristine, but this is a real Android contender to rival the iPads. You get the new Android 5.0 Lollipop software, bags of power and a super-sharp display. With 12 hours of video play and two front-facing speakers, it'll be a great film buddy.	£300 ★★★★★☆
8	 Sony Xperia Z3 Tablet Compact A slim, light and reliable couch or commute companion, with a screen that looks brilliant despite being 'only' Full HD. The waterproofing may sway people away from choosing an iPad Mini and every gamer's eyes will light up at the mention of PS4 Remote Play.	£300 ★★★★★☆
9	 Samsung Galaxy Tab S 8.4 Samsung's superb screen, design, performance and a wider selection of optimised apps mean that against many other Android tabs it's still a winner. However, the new low price for the iPad Mini 2 makes the Galaxy Tab S 8.4 look rather pricey.	£250 ★★★★★☆
10	 Nvidia Shield Tablet This really is the ultimate gaming tablet. The Shield's sheer power and gaming smarts are incredible, with a console-quality controller and the option of seamless streaming from your PC. All it needs now is more made-for-Shield games... lots more.	£240 ★★★★★☆ BEST FOR GAMING ON THE GO

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FOOTBALL WEEKLY

FROM THE
FourFourTwo
 MAKERS OF



AVAILABLE ON ALL MOBILE DEVICES... APPLE OR ANDROID • **FREE TO DOWNLOAD NOW!!!**

HOT BUY 1		Sonos multiroom system Who needs to drill holes and re-plaster walls to get a multiroom music system? Not you. With the addition of the cracking little Play:1 (£170) Sonos has made it easier than ever to start spreading your tunes around. Then maybe hook up a Connect to your existing hi-fi and router, and add speakers to a Connect:Amp in another room, or a SUB for a bass boost. You'll run out of rooms before you run out of options. For a further upgrade, the Arcam rSeries SonLink DAC works a treat with the Connect.	STUFF SAYS Infinite music in every room without the need for custom installers? Sign us up now, please from £170 ★★★★★
2		Naim Mu-so £895 for a wireless speaker?! Well yes, but what a wireless speaker it is. Naim has ploughed all of its high-end hi-fi experience into delivering a beautifully made, great-sounding device with AirPlay, Spotify Connect and aptX Bluetooth all on board.	£895 ★★★★★ BEST FOR ONE-BOX WI-FI HI-FI
3		Monitor Audio Airstream S200 It may look a bit like a floppy skyscraper, but the Monitor Audio's Bluetooth-plus-AirPlay speaker makes a lot of sense, mostly because it takes up very little shelf/desk/table space but makes loads of lovely noise. It's a bit of a steal at £200.	£200 ★★★★★
4		Cambridge Audio Go There are loads of very cheap Bluetooth speakers out there, but we reckon it's worth spending that little bit more to get something that's really good – and that's the Go. It sounds awesome, it's really nicely built and its battery lasts a massive 18 hours.	£120 ★★★★★ BEST FOR PICNIC PARTIES
5		Bluesound multiroom System Fancy a bit of Sonos-style multiroom but with better-than-CD-quality sound thrown in? You want Bluesound. There are all-in-one speakers, adapters for your existing hi-fi, and a Vault that rips and stores all your CDs. All can handle high-resolution audio.	from £400 ★★★★★
6		Audio Pro Addon T10 Available in orange, white or black, the Addon T10 is a Bluetooth speaker that also has analogue inputs and a USB socket for charging your MP3 player. Sound-wise it's punchy and deep, with just a little too much bass. It sounds best in orange, obviously.	£200 ★★★★★
7		Libratone Zipp A fuzzy, cylindrical, colourful AirPlay dock that will deliver detailed, punchy 360° sound anywhere at all, thanks to a built-in battery that gives it four hours of outdoor life. Direct Wi-Fi skills free you from cables, routers and everything but the boogie.	£300 ★★★★★ BEST FOR AL FRESCO PARTIES
8		Cambridge Audio Minx Xi It might not look all that fancy, but the Minx Xi is like that micro system you had at uni, only it gobbles internet music rather than Rage Against The Machine CDs. Just add a pair of quality speakers (try Wharfedale Diamond 220s) and you've got a great hi-fi.	£500 ★★★★★
9		Q Acoustics BT3 These ultra-versatile Bluetooth speakers have an optical input for waking up the audio of your flatscreen TV. The styling is simple and so is the sound – brilliantly so, with perfect hi-fi balance and an impressive focus to the stereo image.	£280 ★★★★★
10		Sony NWZ-ZX1 This is a premium high-res audio player, and it's the best-sounding portable device we've ever heard: you'll notice parts of songs you never knew were there. We're not so keen on the high price and lack of expandable storage, though.	£550 ★★★★☆

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**WHAT HI-FI?
 AWARDS 2014**
 PRODUCT OF THE YEAR
Multi-room systems
 Best multi-room system £500+
Bluesound



BLUESOUND

BLUESOUND IS A 24-BIT NATIVE, PURE DIGITAL WIRELESS STREAMING MUSIC SYSTEM

A sound experience like no other. Because it's engineered like no other.

Even 16-bit CDs have only about half of the audio spectrum that the master recording holds and that's a whole lot more than MP3s have left in them. With more than a decade of compressed audio piping through earbud headphones and cheap dock players, the time has come. The portable players we all love have created a new way of listening to music, but there hasn't really been much there to hear. Until now. Enter true 24-bit HD digital audio.

Prices from £399

NAD M12 / M22

DIGITAL PREAMPLIFIER / DAC / POWER AMPLIFIER

The M12 is an ultra-high resolution digital audio hub that boasts a full roster of audiophile-grade features. An optional DD BluOS MDC Module allows streaming of a variety of music services, HD streaming from a NAS device plus it gives you full control of your music library. The M22 employs the latest generation of digital PowerDrive™ and offers a minimum of 250W per channel with amazing reserves of dynamic power at lower impedances.

£5998



NEW



**WHAT HI-FI?
 AWARDS 2014**
 PRODUCT OF THE YEAR
Wireless speakers
 Best wireless speaker £750+
Naim Mu-so

NAIM MU-SO

WIRELESS MUSIC SYSTEM

Through its advanced connectivity, mu-so will unleash your digital music, wherever it's stored. And it's so easy to set up and use that you'll find yourself listening to and enjoying your favourite artists more than ever before.

Combining Naim's expertise in streaming, amplification and loudspeaker technology, Mu-so is the stage your music deserves, bringing you closer to the songs that inspire your life.

£895

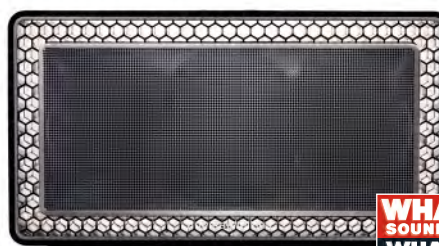
SENNHEISER MOMENTUM WIRELESS OVER-EAR HEADPHONES

Peak performance with active noise cancellation. Sennheiser's new MOMENTUM Wireless - Closed circumaural headphone feature Bluetooth wireless technology and NoiseGuard Hybrid active noise cancellation impedances. MOMENTUM Wireless can also be operated with a detachable cable, just like any conventional headphones.

£379.99



NEW



NEW

**WHAT HI-FI?
 SOUND AND VISION**
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 FIVE STARS
 FEBRUARY 2015

BOWERS & WILKINS T7 PORTABLE BLUETOOTH SPEAKER

Perfectly sized for bedrooms, kitchens and gardens, T7 is B&W's most portable, versatile wireless system yet. So now you can bring great sound to places other speakers can't reach. The size of a hardback book, it's designed to be picked up and carried with you; and T7's rechargeable battery gives you the freedom to take it with you wherever you go, for up to 18 hours at normal listening levels.

£299.95

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 SOME BRANDS ARE NOT AVAILABLE IN ALL STORES.

HOT
BUY

1

**AKG K451**

They've actually been around a little while now, but what put the K451 on-ears back on to our radar was an official price drop from £130 to £80, and a real-world price of just £50 or less. For that money they're unbeatable – awesomely agile and punchy sound wrapped up in a subtly stylish and foldable design. Add both standard and three-button control cables for maximising compatibility and there's practically no excuse for not getting brilliant sound from your phone.

STUFF SAYS

Fantastic sound and great portability at an almost unbeatable price: the perfect phone upgrade

£50 ★★★★★

NEW

2

**Bowers & Wilkins P5 Series 2**

Even the most demanding audio buff would find it hard to fault these – B&W have delivered a pair of premium on-ears that look, feel and sound exquisite. You control playback and volume with your iPhone, while feeling like a VIP guest at an intimate gig.

£245

★★★★★

3

**Philips Fidelio M1 MkII**

Your commute deserves a quality soundtrack, and second-generation Fidelio M1 headphones give you precisely that. There's oodles of detail to the sound and they punch harder than the Hulk. Beats and their ilk can't touch them.

£145

★★★★★

4

**SoundMagic E10S**

This is actually the third version of SoundMagic's awesome, affordable in-ears – not that you'd tell by looking. They sound even better, though: a little smoother and more refined, with tight, weighty bass. Plus there's now a mic and button for smartphone use.

£40

★★★★★

5

**Sony MDR-EX650AP**

If you're prepared to pay a little extra for your in-ears, these Sonys are even better than the SoundMagics above. The sound is that bit bigger, a little more detailed and a little more grown-up, and if you don't like the brass finish there's a silver version.

£40

★★★★★

6

**Bose QuietComfort 25**

The best kind of silence is the kind you then fill with sweet, sweet music, and that's what the QuietComfort 25s give you. The active noise-cancelling quells office hubbub, air-conditioning and aeroplane hum, and delivers cracking sound in its place.

£270

★★★★★

BEST FOR
SHUTTING OUT
THE WORLD

7

**Philips Fidelio M2BT**

Building on the award-winning M1BT, Philips has added NFC for its new wireless Bluetooth headphones and swapped the dark blue design for an understated black finish. The smart built-in controls and rich sound performance remain.

£185

★★★★★

BEST FOR
GREAT SOUND
WITH NO WIRES

8

**AKG Y50**

The bright colour options (they're available in yellow, teal and red, as well as black) and massive logo have a slight try-hard feel about them, but the Y50s make up for it by sounding loads better than the more 'street' on-ear headphones out there.

£70

★★★★★

9

**Sol Republic Master Tracks**

Really tough things are usually really ugly, which is why the lovely styling of the "virtually indestructible" Master Tracks headphones is so refreshing. Loud, punchy, fast and controlled, the sound is just as attractive as the design. Worth every penny.

£115

★★★★★

10

**Sennheiser Momentum**

Classily styled, cushion-comfortable and smooth-sounding, the Momentums are the perfect over-ears for the dapper man about town. There's also an on-ear version, smaller and cheaper at £105, available in pink, blue, green, brown and, um, 'ivory'.

£200

★★★★★



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LG G Flex 2 review

Second time around the curved phone makes a lot more sense:

f 7 t 15 e 1 s 22



★★★★★

**TOP 10 SMARTPHONES**

- 1 Motorola Moto X (2014) ★★★★★
- 2 LG G3 ★★★★★

James Anderson

England's No.1 wicket taker of all time*

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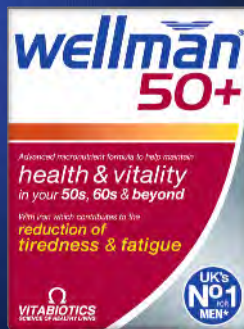
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*England's all time highest international wicket-taker, 380 test wickets correct at 16 Jan 2015.

Source: www.jamesanderson613.com ** UK's No1 men's supplement brand. HIRI value sales. 52 w/e 6th September 2014.

From selected



**ALSO
VITAMIN
DRINK**
Tasting is believing!

HOT BUY 1 	Sky+HD The new Sky boxes come with built-in Wi-Fi, to make it easier to access on-demand programming, of which there's now more than ever, including pre-release blockbuster films. There's now a 2TB drive available that, with more than 65 channels of HD, might well be worth the outlay. On the move, the Sky Go app is supremely slick. But the most important thing is this: Sky has more movie, TV and sport content – and more of it is unique – than any other service.	STUFF SAYS The only choice for serious TV, movie or sport addicts from £free + £21.50/month ★★★★★
2 	Sony BDV-N5200 A whole (home) cinema (minus a telly) in one box? That's the Sony BDV-N5200. A Netflix-toting Blu-ray player, an amplifier, five speakers and a subwoofer, all for a lot less than an iPhone 6. There's even a wireless adapter for the rear speakers.	£395 ★★★★★
3 	Sonos Playbar A characteristically Sonos take on the soundbar, the Playbar hooks up to your TV via its single optical input and fills your room with a big, detailed sound. And as with all Sonos kit, it can stream your own music files, Spotify and more as part of a multiroom system.	£600 ★★★★★ BEST FOR STREAMING MUSIC
4 	Sony BDP-S7200 Sure, you can pick up a Blu-ray player for just £50 these days, but if you're serious about your movies then you want to make sure they look and sound crisper than a Kettle Chip. That's where the S7200 comes in. It even throws Netflix and iPlayer into the bargain.	£190 ★★★★★
5 	Yamaha YSP-2500 If your only requirement for a soundbar is that it should sound better than your telly, almost any will do; but if you want one that will fool your ears into thinking they're surrounded by actual speakers, you want the amazingly clever Yamaha YSP-2500.	£700 ★★★★★
6 	Virgin TiVo Hardware-wise, the taste-learning TiVo is a Sky+HD-beater, but it loses out on content. Mind you, subscribers to the 'XL' package now have free access to all the BT Sport channels: Premier League football, MotoGP and more, in lovely HD.	from £free + £24/month ★★★★★
7 	BenQ W1400 What's better than <i>Inception</i> ? <i>Inception</i> on a 300in screen, that's what. How do you get a 300in screen in your house? You buy the BenQ W1400. If your lounge isn't quite that big it can also project an 84in image from just 2m away. Try finding an 84in TV for £1010.	£1010 ★★★★★
NEW 8 	Humax DTR-T2000 Building on the success of the DTR-T1010, Humax has treated us with a more refined version of their suscription-free YouView box. This faster and more compact device has a huge variety of catch-up offerings for your sofa-time, but there's still no sign of Wi-Fi.	£200 ★★★★★
9 	Panasonic DMP-BDT700 The BDT700 is the Blu-ray player for the most serious of serious home cinema buffs. It's all high-end materials, sound-enhancing dampening and 4K-upscaling video circuits. But yeah, it'll also stream <i>Vampire Diaries</i> from Netflix if that's more your kind of thing.	£400 ★★★★★
10 	Sony BDP-S5200 There's no display, it looks a bit cheap and its remote is a bit naff, but this dinky Blu-ray player offers a lot of bang for very few bucks. For the money you get a very good picture, 3D (if you're still into that), Wi-Fi and plenty of on-demand apps. Bargain.	£85 ★★★★★

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HOT BUY 1	 LG 55EC930V Self-illuminating OLED (organic light-emitting diode) screens used to be full of potential but were criminally expensive. No longer. Behold this curved LG marvel which, for the most part, is no thicker than a pane of glass and verging on affordable. The levels of contrast and dynamism are a revelation. No, it's not 4K. But when 1080p Full HD looks this good, you won't be counting pixels – and it'll be some time before you'll be able to feed your TV a 4K-heavy diet anyway.	STUFF SAYS 4K and millions of pixels might be the future, but this LG OLED is the best TV you can buy for viewing now £2290 ★★★★★
2	 Samsung UE55HU7500 Finally, a 4K TV that can be recommended without hesitation, plus it's just as good as a full HD TV when playing 1080p stuff. Chuck in all of Samsung's usual smart TV whizzbang, remove the silly motion-sensing controls and you've got a real star.	from £1570 ★★★★★
3	 Sony KDL-50W829B 4K a bit too new-fangled (or pricey) for you? How about a 50in edge-lit LED LCD with all of Sony's smart features for well under a grand? It's not even like picture quality's been sacrificed – this is an absolute corker of a telly in every way.	£600 ★★★★★ BEST FOR AFFORDABLE BRILLIANCE
4	 Samsung UE46F7000 The 46in F7000 might just be the sweetest spot in Samsung's current range – the same spectacular performance as the F8000 series but without the show-off design. Great picture quality and slick online functionality in one box.	£1380 ★★★★★
5	 Sony KD-65S9005B One of the best curved TVs we've tested is actually the least curved TV we've tested (not counting the actual flat ones, of course). How much difference the curve makes is hard to tell, but what we can say is this is an awesome-performing 65in 4K TV.	£3350 ★★★★★
6	 Sony KDL-32W706B There's nothing wrong with sticking with a smaller TV, but you should still make sure you pick a good 'un. This 32in Sony is the best, in terms of both picture performance and features, which include 1080p resolution and all the smart stuff you can handle.	£310 ★★★★★ BEST FOR A SMALLER SCREEN
7	 Sony KD-55X8505B If you want to jump on the 4K bandwagon with Sony you could go for the wedge-shaped X9, which is great, but we'd suggest that this slimmer, less intrusive 'entry-level' 55-incher is an even better buy. It's still got all the smart stuff and great performance.	£1250 ★★★★★
8	 LG 42LB700V The performance is very good, but what makes this 42in LG really special is its webOS user interface, which treats all sources, apps, recordings and live broadcasts equally, getting you to the content you want to watch quicker. And isn't that what a TV is for?	£520 ★★★★★☆
9	 Panasonic TX-42AS500B It's not the prettiest, it's not the smartest, and with just two HDMI inputs it's not the most connected TV about, but there's a really simple, intuitive OS pulling the strings here – and a performance that's very strong given the price and 42in size.	£390 ★★★★★☆
10	 LG 55UB950V LG's 4K flagship looks gorgeous with Netflix's 4K content... but as with the other LG telly at no.8, the real story here is the webOS interface. This 55in set is by far the most pleasant, colourful, multi-task-friendly and downright fun TV there's ever been.	£1300 ★★★★★☆ BEST FOR MAKING TV FUN AGAIN

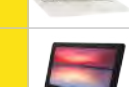
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Available on the App Store | **DIGITAL EDITION**

HOT BUY	1		Apple MacBook Air 13in The 2014 MacBook Air update means, once again, our favourite old laptop is now our favourite new laptop. Nothing's changed on the outside, and under the skin there's just a slight processor boost from 1.3GHz to 1.4GHz, but combined with a price cut of £100 on each model we're still happy with that. The very top model, which comes with a 256GB SSD, is now just under a grand, too. Head to stuff.tv for our full reviews of both 13in and 11in versions.	STUFF SAYS It's not a major upgrade, but Apple has improved the Air's already awesome spec and lopped £100 off the price from £800 ★★★★★
	2		Apple MacBook Pro with Retina Display 13in Choosing between Air and Pro is getting harder. Both now run on Haswell chips, but the Pro is faster, with a 2014 processor boost. There's a 4K-capable Thunderbolt 2 port, and then that Retina screen, one of the most gorgeous you'll see. Tough call.	from £950 ★★★★★ BEST FOR EVERYTHING BAR THE PRICE
	3		Microsoft Surface Pro 3 The fact that it's the only device to feature in two of our Top Tens is a testament to the Surface Pro's versatility: it's a strong tablet, but its full-fat operating system and powerful innards mean it's also a worthy adversary to Ultrabooks and MacBooks.	from £750 (with Type Cover) ★★★★★ BEST FOR WORKING ANYWHERE
NEW	4		Toshiba Chromebook 2 Toshiba has created the most desirable Chromebook to date with some well-judged upgrades. Slightly smaller and lighter, the screen's resolution now has full pin-sharp HD and the Skullcandy speakers are distortion-free. It lasted eight hours on test.	£270 ★★★★★
NEW	5		Aorus X3 v3 This high-end gaming PC is packed into one of the smallest chassis we've ever seen, complete with a drool-worthy Ultra-HD screen, good sound quality and all the storage you'll ever need. It is pretty pricey, but it will keep you at the top of your game.	£1800 ★★★★★
	6		Lenovo Yoga Pro 3 The third entry in the Yoga Pro line refines the laptop/tablet hybrid design with a power-sipping new Intel Core M processor plus slimness and style to make even the MacBook Air look worried. And you can stand it up like a tent. If you want.	£1300 ★★★★☆
	7		Dell Chromebook 11 Well-built, tough and powerful: Dell has delivered pretty much all you could want from a wallet-friendly Chromebook. Its high-quality finish, solid keyboard and responsive trackpad feel premium and it's a runaway success in our benchmarks.	£240 ★★★★☆ BEST FOR VALUE FOR MONEY
	8		Acer Aspire S7 The Aspire S7 is almost the perfect Ultrabook – it matches the MacBook Air for weight, beats it for slimness by 6mm, and has a gorgeous 1920x1080 touch-friendly screen. Only its battery, which lasted a mere 5hrs on test, prevents it getting that fifth star.	£1000 ★★★★☆
	9		Asus C200 The holy grail of laptop battery life is 10 hours, and Asus's C200 Chromebook misses it by 17 minutes. That's as good as we've seen from a MacBook Air costing four times as much. There are more powerful Chromebooks, but this one just keeps on going.	£190 ★★★★☆
	10		Acer Aspire Switch 10 A Windows laptop and 10.1in tablet for just £280? This seriously flexible bundle is Asus's best hybrid yet. Only a bit heavier than a MacBook Air, the square-edged ergonomics and battery life are issues, but as a whole package it makes a lot of sense.	£280 ★★★★☆

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THIS
MONTH
IN...
2008



JCB Toughphone
£free with contract
Stuff said Don't expect a feature-fest, because this is a no-nonsense bare-bones handset for the no-nonsense wolf-whistling brickie. It's resistant to shocks, dust, water and dropping, and operational in -20°C to 60°C. We've seen it survive being run over by a car.
★★★★☆



Archos TV+
£250
Stuff said Archos have moved into personal video recorder territory. Set-up is a pain and it's not the easiest box to use, but providing you have the right supporting kit, this is one of the best ways to feed your portable media player with all your favourite shows.
★★★★☆



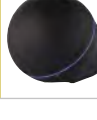
Oregon Scientific ATC2K
£90
Stuff said The ATC2K's form and rubberised build make it light and easy to mount on a helmet. It records 30fps VGA video to SD cards and loves battling the elements. Video suffers from high contrast but it's fine for the price.
★★★★☆



Toshiba Portégé R500-11Z
£1350
Stuff said A good performer, very light and practical, but the design won't impress fellow commuters. The keyboard is functional rather than fashionable, the screen a little washed out, but its fast Core 2 Duo runs Vista with ease.
★★★★☆



HOME COMPUTERS

HOT BUY	1		Apple iMac Other than regular power upgrades and a bit of slimming, the iMac has been largely unchanged for a while, but it does now run Apple's lovely Yosemite OS. There's also now a more affordable version and an eye-wateringly expensive 5K model.	from £1000 ★★★★★	BEST FOR ALL-ROUND BRILLIANCE
	2		Sapphire Edge VS8 This mini-PC may look like the Terminator's lunchbox, but it houses AMD's 1.6GHz A8 APU and dedicated HD7600G graphics with 4GB of RAM. A capable little fellow, the VS8 even does a decent job with the latest gaming titles (with the detail dialled back a little).	from £355 ★★★★★	BEST FOR COMPACT POWER
	3		Alienware X51 (2014) The X51 hasn't changed a huge amount, but the wee size matched with powerful components make it perfectly suited to HD gaming. Steam Machines are going to liven this market up but right now it's the best balance of power and form in PC land.	from £800 ★★★★★	
	4		Raspberry Pi Model B+ It's a fully functioning PC that's barely bigger than a credit card, and now it's more flexible thanks to two extra USB ports and better power management. Don't expect a 'proper' computer – this is for tinkerers. Look out a review of the Raspberry Pi 2 Model B soon.	from £20 ★★★★☆	
	5		Zotac ZBOX Sphere OI520 About the size and shape of a cannonball or cantaloupe, this striking sphere will certainly draw attention. For media playback it's perfect, but high-end gaming is a no-go due to low frame rates. However, even in full swing it barely raises a decibel.	£355 ★★★★☆	

GAMES CONSOLES

HOT BUY	1		Sony PlayStation 4 It may not quite be the finished article, but this is the best games machine on the planet. It has whisper-quiet operation, a sleek form and bags of power, with full 1080p on all titles and not a whiff of lag. When proper media streaming arrives, it'll be unstoppable.	from £320 ★★★★★	
	2		Microsoft Xbox One This is very different to the Xbox One of 2013. Most significantly, the unpopular Kinect feature is now out of the deal, allowing Microsoft to drop the price and releasing enough extra power for developers to make their games look and play better.	£330 ★★★★★	
	3		Alienware Alpha It's not quite a PS4 or Xbox One-beater, but this is the most console-like PC there's ever been. Steam is the main interface, but it runs on top of Windows for maximum game compatibility, and performance is very impressive.	£450 ★★★★☆	
	4		Sony PS Vita Slim If you're serious about gaming on the go, the Vita is way better than a smartphone, and when you get home you can play your PS4 games in bed thanks to Remote Play. That's gaming decadence, right there.	£140 ★★★★☆	
	5		Nintendo Wii U While it hasn't had the same impact of the original Wii, don't underestimate the U's fun factor. Nintendo's bottomless bag of superb game franchises rolls on with the excitement of Mario Kart 8, with its anti-gravity karts and submarine racing.	£150 ★★★★☆	

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TABLET
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HOT BUY	1		Pebble Steel The Steel keeps the straightforward looks, crisp display and five-day battery life that helped the standard Pebble win our hearts. But it holds more RAM, apps and customisable faces this time, and swaps the plastic for either a 'Steel' silver or matte black stylish suit, making it look and feel more like an actual watch. The Steel goes beyond the gimmicks and into the world of real-world wearable tech. Pop it on your wristwear wish-list.	STUFF SAYS The best smartwatch money can buy... and the original plastic Pebble is still available for £80 less from £180 ★★★★★
NEW	2		Nest Learning Thermostat Nest has a smart design paired with a ton of features to control your heating in style. We recommend making use of its IFTT channel: it offers map-based geo-fencing, or you can fire up the boiler with a text. There's even voice control with Google Now.	£250 (with installation) ★★★★★
	3		Fitbit Flex The Flex delivers all of Fitbit's activity-tracking smarts but in a form factor that's less fiddly than its belt-clip counterparts. It's packed with Bluetooth, NFC, vibratamotor and an LED display. See also the Fitbit Charge, with numeric display, for a few quid more.	from £70 ★★★★★
	4		Jawbone UP24 With Bluetooth for hassle-free syncing, the stylish UP24 is worth the extra £30 over the Jawbone Up. The app introduces new challenges and tracks your sleep patterns. It will also gently nudge you, if you're lazing around, to get back on the move.	£100 ★★★★★
	5		Motorola Moto 360 With its iconic, head-turning design, this could be the first wearable you will want to wear. The Moto 360's our favourite and most comfortable Android Wear watch so far, but its battery life might make you anxious and it's a few specs short of brilliance.	£190 ★★★★★
	6		Philips Hue Pair these smart LED bulbs with 'recipes' on ifttt.com – set them to change colour with the weather or when it's time to run to the train. They also tie in with Philips' own Ambilight TVs, casting the colours from the screen across your entire room..	from £50 ★★★★☆
	7		LG G Watch R 'Streaming Stick' tells you all you need to know, really: this is a stick, and it streams. It streams plenty, too – Netflix, iPlayer, Spotify, Sky Now and Sky Go to name a few. And unlike Chromecast, it's also a dab hand with your own video and music files. Lovely stuff.	£40 ★★★★☆
	8		LG G Watch R This circular smartwatch won't win any beauty contests, but that's about its only flaw. The G Watch R's plastic OLED screen has deep blacks, sharp text and good visibility. Its battery easily lasts a day and a half, and using it is a smooth experience.	£200 ★★★★☆
	9		Google Chromecast This USB memory-stick-sized cord-cutter is compatible with Netflix, YouTube, Google Play movies and BBC iPlayer: a cheap, simple way of getting web-sourced movies and shows onto your living-room TV.	£30 ★★★★☆
	10		Garmin Forerunner 920XT This fitness-tracking watch has so much included, it's bewildering. The star feature is the dedicated triathlon mode, which allows you to hit enter to move between sports, counting each bit (including transitions) separately.	£330 ★★★★☆

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SLRs

HOT BUY	1		Olympus OM-D E-M1 The Olympus flagship is armed with the same excellent 16.3MP sensor as its predecessor the E-M5, but has an improved autofocus system, a startlingly good electronic viewfinder and masses of direct controls. Also look out for the E-M10.	£760 (body only) ★★★★★	
	2		Canon EOS 700D Look, it's a new Canon at No.2. No, wait, it's the old one. Actually, it's kind of both. The 700D is a minor upgrade over the 650D, keeping its 18MP sensor, flip-out touchscreen and autofocus during video and adding little beyond a new kit lens. Still great, though.	£330 (body only) ★★★★★	BEST FOR ALL-ROUND VALUE
	3		Sony A6000 Sony's new system camera may be tiny but it packs a big photographic punch. There may be no optical image stabilisation but the incredible speed and accuracy of the A6000's autofocus is a real highlight, as is its large, clear electronic viewfinder.	£390 (body only) ★★★★★	
	4		Nikon D750 It's big and bulky, but otherwise this is one of the most comfortable and intuitive DSLRs money can buy. And with a handy tilt screen and some wireless connectivity features, there's none of the purist snootiness that we saw in the D810.	£1320 (body only) ★★★★★	
	5		Sony A7R We love this camera. It's light weight but tough and delivers results that outstrip pretty much any other compact system camera on the market. It has a huge full-frame 36.4MP sensor and noise-suppression. Your wallet might weep, but your photo album will sing.	£1200 (body only) ★★★★★	

COMPACT CAMERAS

HOT BUY	1		Sony DSC-HX60 2014's HX60 isn't a huge departure from its predecessor in terms of its build quality, ease of use, specifications and 30x zoom lens – all of which are excellent. What it does add is NFC and a newer Bionz X processor, making it a slightly nippier performer.	£230 ★★★★★	
	2		Sony DSC-RX100 III If you're looking for the best tiny snapper around, this is it. Excellent image quality, fast autofocus, a useful electronic viewfinder and professional video recording, all squeezed into a truly teeny package that'll fit into your jeans pocket. We're smitten.	£520 ★★★★★	
	3		Panasonic Lumix LX100 This is one the most capable premium compacts on the market – and the LX100's 4K capabilities give it a crucial edge over its rivals. HD video capture and superb stills performance make the Panasonic a star performer when it comes to the basics too.	£580 ★★★★★	
	4		Fujifilm FinePix X100S Fujifilm souped up its fixed-lens retro shooter last year, with faster focusing and a big APS-C sensor. It retains the 35mm-equivalent f/2 lens and hybrid viewfinder of the old X100, and a less retro version with black finish is also available.	£570 ★★★★★	
	5		Canon PowerShot G16 The G16 packs a lot into its sturdy body: optical viewfinder, loads of manual controls and an f1.8-2.8, 28-140mm (equivalent) zoom lens. Upgrades over the G15 include Wi-Fi and faster burst shooting of up to 12fps, while image quality is as good as ever.	£275 ★★★★★	

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COFFEE MACHINES



Heston Blumenthal's Sage Barista Express
£550 / houseoffraser.com
Featuring a built-in bean grinder, this is clearly aimed at those seeking a major step up in their coffee. Our first cup was gloriously smooth with barely a hint of bitterness and the milk-steamer is excellent, producing a light and airy foam.

★★★★★



DeLonghi Nescafe Dolce Gusto Jovia
£70 / argos.co.uk
This attempts to place itself in the hinterland between no-fuss convenience and serious coffee. It's affordable and incredibly simple to use: fill up the water tank and pop in your chosen pod. The non-milk varieties taste best.

★★★★★



Panasonic NC-ZA1
£400 / panasonic.com/uk
Like the Sage, the NC-ZA1 is a bean-to-cup espresso machine, but with almost an entirely automated process via a touchscreen. Every time you switch it on, it flushes water through its pipes. Perhaps that's why it makes such delicious coffee.

★★★★★



Morphy Richards Accents Espresso
£65 / amazon.com
This will accept both ground coffee and ESE pods. The milk foamer isn't outstanding but the 15-bar pressure makes for smooth coffee with a healthy crema. You'll need to wipe it after each use but the price is incredibly low for the standard.

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-Tom's Hardware

GAME CHANGER



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GAME CHANGERS

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thecontrollershop.com



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AND M80 / FROM £169.99**

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limexb360.co.uk



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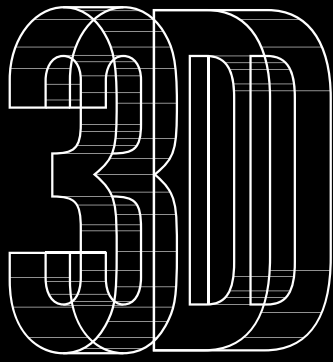
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NEXT BIG THING?



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pen sea, more like. How the flip am I going to walk to the bus stop?

This is the future, guv. There aren't any buses, there's no land mass to walk on that hasn't been all covered in ex-icecap water and there's no you. You're on Mars, terraforming for your life. We're joking, of course. Come back to nearer the here, and let's talk about artistic licence – the kind that London-based Carl Turner Architects have used in displaying this house as free-floating, when in fact it has been designed for land-adjointing placement. Like a houseboat.

A houseboat? Bit '70s, isn't it?

Patience, patience. We're getting to the crux of the matter. This house design is one entrant in a scheme called Paperhouses (paperhouses.co), which aims to make house plans open-source: free to download, modify, share and discuss. This particular design happens to be made of eco-friendly materials and, with solar panels, is self-powering. But the focus is on making the designs workable for your budget – with the help of the community – and modular: 3D-print some bits here, CNC some other bits there, make it happen howsoever you can.

What, all for free?

No, silly. You can't download the actual materials and builders, can you? But open-source designs save a wedge of budget that you'd usually pay an architect. Plus, as the idea builds and demand for popular design components grows, then you've got yourself a market for competitive pricing. Paperhouses currently has 13 member architects, from around the world, but support is building; go and look at wikihouse.cc for further evidence that this collaborative concept has legs. Hmm, a house with legs...

[Words Fraser Macdonald]

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